Research Solutions, Inc.
Form S-1
July 22, 2016

As filed with the Securities and Exchange Commission on July 22, 2016 Registration No. 333-[ ]

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

RESEARCH SOLUTIONS, INC.

(Exact name of registrant as specified in its charter)

Nevada (State or other jurisdiction of incorporation or organization)	**7389** (Primary Standard Industrial Classification Code Number)	**11-3797644** (I.R.S. Employer Identification No.)

5435 Balboa Boulevard, Suite 202
Encino, CA 91316
(310) 477-0354

(Address, including zip code, and telephone number, including area code, of registrant’s principal executive offices)

Alan Urban

Chief Financial Officer

Research Solutions, Inc.

5435 Balboa Boulevard, Suite 202
Encino, CA 91316
(310) 477-0354

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box: x

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

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 definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ¨	Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Accelerated filer ¨	Smaller reporting company x

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CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered [1]	**Amount to be Registered** [2][3]	**Proposed maximum offering price per security** [3]	**Proposed maximum aggregate offering price** [3]	Amount of registration fee
Common Stock, par value $0.001 per share	5,200,000 shares	$ 1.07	$ 5,564,000.00	$ 560.30
Common Stock, par value $0.001 per share, underlying Warrants	1,785,000 shares	$ 1.07	$ 1,909,950.00	$ 192.33
Total:	6,985,000 shares		$ 7,473,950.00	$ 752.63

(1) The shares being registered hereunder consist of 5,200,000 shares of common stock and 1,785,000 shares of common stock that may be acquired upon exercise of warrants, in each case which shares of common stock may be sold from time to time by the selling stockholders.

(2) Pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(3) Estimated solely for the purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, based on the average of the high and low per share prices of the registrant's common stock as report on the OTC Markets Group's OTCQB market on July 22, 2016.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

Subject to Completion, Dated July 22, 2016

6,985,000 Shares

Common Stock

This prospectus relates solely to the offer and sale from time to time of up to an aggregate of 6,985,000 shares of our common stock by the selling stockholders identified in this prospectus or a supplement hereto. These shares consist of shares of our common stock that we issued to the selling stockholders pursuant to private placements of our common stock and shares of our common stock issuable upon the exercise of warrants to purchase our common stock.

We are not offering any shares of common stock for sale under this prospectus, and we will not receive any of the proceeds from the sale or other disposition of the shares of common stock offered hereby. The prices at which the selling stockholders may sell the shares in this offering will be determined by the prevailing market price for the shares or in negotiated transactions.

Our common stock is listed on the OTC Markets Group's OTCQB market under the symbol "RSSS." On July 22, 2016, the last reported sale price of our common stock on OTCQB was $1.09.

Investing in our common stock involves risks. You should carefully consider the risks described under "Risk Factors" in Item 1A of our most recent Annual Report on Form 10-K and Item 1A of any subsequently filed Quarterly Reports on Form 10-Q (which documents are incorporated by reference herein), as well as the other information contained or incorporated by reference in this prospectus or in any prospectus supplement hereto before making a decision to invest in our common stock. See "Where You Can Find More Information" below.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is [ ], 2016

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You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security.

PROSPECTUS SUMMARY

The following summary highlights selected information contained in greater detail elsewhere in this prospectus. This summary does not contain all the information you should consider before investing in our common stock. You should carefully read this prospectus in its entirety before investing in our common stock, including the sections entitled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus. Unless otherwise indicated, (i) the terms "Research Solutions," "we," "us" and "our" refer to Research Solutions, Inc., a Nevada corporation, and our tw wholly-owned subsidiaries Reprints Desk, Inc., a Delaware corporation ("Reprints Desk"), and Reprints Desk Latin America S. de R.L. de C.V, an entity organized under the laws of Mexico ("Reprints Desk Latin America"), and (ii) the term "common stock" refers to the common stock, par value $0.001 per share, of Research Solutions, Inc., a Nevada corporation. The financial information included herein is presented in United States dollars ("US Dollars"), the functional currency of our company. Although the majority of our revenue and costs are in US Dollars, the revenues and costs of Techniques Appliquées aux Arts Graphiques, S.p.A., our former subsidiary ("TAAG"), are in Euros, and the costs of Reprints Desk Latin America are in Mexican pesos.

Business Overview

We provide on-demand access to scientific, technical, and medical ("STM") information for life science companies, academic institutions, and other research-intensive organizations. We provide two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

Article Galaxy, our cloud-based software-as-a-service ("SaaS") solution, provides our customers with a single source to the universe of published STM content that includes over seventy million existing STM articles and over one million newly published STM articles each year. Article Galaxy allows customers to find and download in digital format STM articles that are critical to their research. In addition, Article Galaxy facilitates customers' compliance with applicable copyright laws.

Researchers and regulatory personnel in life science and other research-intensive organizations generally require single copies of published STM journal articles for use in their research activities. They place orders with us for the articles they need and we source and electronically deliver the requested content to them generally in under an hour. This service is known in the industry as single article delivery or document delivery. We also obtain the necessary permissions from the content publisher so that our customer's use complies with applicable copyright laws. We have

arrangements with numerous content publishers that allow us to distribute their content. The majority of these publishers provide us with electronic access to their content, which allows us to electronically deliver single articles to our customers often in a matter of minutes. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to the addition or loss of customers.

We deliver research solutions through our Article Galaxy journal article platform ("Article Galaxy"). We have developed proprietary software and Internet-based interfaces that allow customers to initiate orders, manage transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and enhance the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around scientific information.

As a cloud-based SaaS solution, Article Galaxy is deployed as a single system across our entire customer base. Customers access Article Galaxy securely through online web interfaces and via web service APIs, which enable customers to leverage Article Galaxy features and functionality from within proprietary and other 3rd party software systems. Article Galaxy can also be configured to satisfy a customer's individual preferences in areas such as user experience, business processes, and spend management. As a SaaS solution, Article Galaxy benefits from efficiencies in scalability, stability and development costs, resulting in significant advantages versus multiple instance or installed desktop software alternatives. We leverage these technical efficiencies to fuel rapid innovation and competitive advantage.

Reprints and ePrints

Marketing departments in life science and other research-intensive organizations generally require large quantities of printed copies of published STM journal articles called “Reprints” that are distributed to physicians and at conferences. We obtain the necessary permissions from the content publisher so that our customer’s use complies with applicable copyright laws. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. Electronic copies, called “ePrints”, are also used for distribution through the Internet and other electronic mechanisms. We have developed proprietary ePrint software that increases the efficiency of our customers’ content purchases by transitioning from paper Reprints to electronic ePrints, and by improving compliance with applicable copyright laws and promotional regulations within the life science industry. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Competitive Strengths

Services and Technology

We have developed proprietary software and Internet-based interfaces that allow customers to initiate orders for accessing full-text research papers 24/7, manage these transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and maximize the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around STM information. Our systems integrate into our customers’ corporate intranets and workflows through the Internet, web services and other integration mechanisms. Our services alleviate the need for our customers to develop internal systems or contact multiple content publishers in order to obtain the content that is critical to their research.

Our services are configured to our customers’ needs and provide a personalized yet turnkey solution that covers the full spectrum of customer requirements; from identifying and locating articles, to facilitating copyright compliance, maximizing information resources already owned, monitoring, tracking usage, and automating end-user authentication. We continue to seek ways to enhance the performance of our existing proprietary software and systems and to develop and implement new technologies that expand the available methods of discovering, obtaining and managing content.

Experienced Management Team

Our management team has extensive experience in satisfying customers across the information services and STM publishing and technology industries. Further, our CEO has been an innovator in the space for over 20 years.

Customer Loyalty

The majority of our revenue comes from repeat customers, indicative of our focus on customer satisfaction and quality. A recent study performed by Outsell, an industry research and advisory firm, ranked Reprints Desk first in customer satisfaction (depth and breadth of coverage, fair pricing, and ease of doing business) and loyalty (intention to renew or continue service, and willingness to recommend the service to others).

Industry Presence and Established Relationships

We have a well-established presence and a network of contacts with our customers, STM publishing partners, and others in the information services space. We have existing arrangements with numerous content publishers that allow us to distribute their content.

Promotion

We employ a segment-focus marketing approach to challenge existing competition. In pursuit of growth, we invest in vertical integration and channel relationships to increase the value we provide to customers, extend our promotional reach, and decrease customer acquisition costs. We anticipate growth coming from cross-selling into our existing customer base, penetrating new market verticals, and generating market demand and preference from both existing and new customers. While we place emphasis on the life science market, with a focus on pharmaceutical, biotechnology and medical device customers, we are also penetrating the following new markets: legal, academic, aerospace, automotive, semiconductor, electronics, chemicals and food and agriculture.

Growth Strategy

Organic Growth

We seek to grow our customer base through targeted selling and marketing campaigns consisting of sales calls on potential customers. This strategy is supported by innovative technological systems, competitive pricing and high quality service. We also submit proposals to potential customers in response to requests for proposals, or RFPs. We have invested heavily in our operations to ensure that they are capable of supporting future growth.

Acquisitions and Combinations

From time to time, and as opportunities arise, we may explore strategic acquisitions and combinations, including the acquisition of customer lists, that bring revenue, profitability, growth potential and additional technology, products, services, operations and/or geographic capabilities to our company.

International Expansion

We have expanded internationally through increased sales to companies located abroad, particularly in Europe and Japan. From time to time, and as opportunities arise, we may further expand internationally through partnerships or acquisitions.

Publisher Agreements

We have arrangements with numerous STM content publishers that allow us to distribute their content. In addition, we regularly contact publishers in an attempt to negotiate additional publisher agreements. A typical publisher agreement would allow us to distribute the publisher’s content according to a negotiated price list, thereby eliminating the need to contact the publisher and obtain the rights for each individual order. Many of these publishers provide us with electronic access to their content, which allows us to further expedite the delivery of single articles to our customers. In addition, we rely on a small number of content publishers for the majority of our content costs.

Organization

Research Solutions, Inc. was incorporated in the State of Nevada on November 2, 2006. On March 4, 2013, we consummated a merger with DYSC Subsidiary Corporation, our wholly-owned subsidiary, pursuant to which we, in connection with such merger, amended our Articles of Incorporation to change our name to Research Solutions, Inc. (formerly Derycz Scientific, Inc.). Our principal executive offices are located at 5435 Balboa Boulevard, Suite 202, Encino, CA 91316. Our telephone number is (310) 477-0354. We maintain a website at www.researchsolutions.com. The information on our website or any other website is not incorporated by reference into this prospectus and does not constitute a part of this prospectus.

Risks Related to Our Business

Our business is subject to numerous risks, which are highlighted in the section entitled “Risk Factors” immediately following this prospectus summary. Some of these risks include:

- we have a history of operating losses and we may not be able to maintain profitability;
- the loss of our largest customers and/or suppliers would significantly reduce our revenues and adversely affect or results of operations;
- our exposure to credit risk on our accounts receivable and prepayments to suppliers is heightened during periods when economic conditions worsen;
- negative perceptions or publicity about our key services could have a material adverse effect on our business and financial results;
- the failure of our technology infrastructure could materially harm our business;
- we may be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies;
- our industry is subject to intense competition and rapid technological change, which may result in products or new solutions that are superior to our products under development or other future products we may bring to market from time to time and if we are unable to anticipate or keep pace with changes in the marketplace and the direction of technological innovation and customer demands, our products may become less useful or obsolete and our operating results will suffer;
- free or relatively inexpensive information sources may reduce demand for our products and services;
- we may not be able to operate and grow our business effectively if we lose the services of any of our key personnel or are unable to attract qualified personnel in the future;
- a disruption, failure or security compromise of the proprietary software systems, websites and online networks on which we rely would disrupt our business, damage our reputation and adversely affect our revenues and profitability;

- our failure to comply with the covenants in our loan agreement could result in an event of default that could adversely affect our financial condition and ability to operate our business as planned;

- government regulations related to the Internet could increase our costs of doing business, affect our ability to grow or otherwise negatively affect our business;

- our growth strategy may require significant additional resources, which may not be available to us on acceptable terms;

- acquisitions, joint ventures and similar strategic relationships may disrupt or otherwise have a material adverse effect on our business; and

- unfavorable general economic conditions in the United States, Europe or in other major markets could negatively impact our financial performance.

For further discussion of these and other risks you should consider before making an investment in our common stock, see the section titled “Risk Factors” immediately following this prospectus summary.

THE OFFERING

Common stock offered	6,985,000 shares by the selling stockholders.
Common stock outstanding before this offering	23,809,593 shares.
Common stock outstanding after this offering	23,809,593 shares.
Use of Proceeds	We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders. See Use of Proceeds on page 16.
Risk Factors	See "Risk Factors" beginning on page 7 and other information included in this prospectus for a discussion of some of the factors you should consider before deciding to purchase shares of our common stock.
OTCQB Market Symbol	RSSS

The number of shares of our common stock outstanding after this offering is based on 23,809,593 shares of our common stock outstanding as of June 30, 2016, and excludes:

- 2,717,193 shares of our common stock issuable upon exercise of outstanding options with a weighted-average exercise price of $1.16 per share;
- 1,990,000 shares of our common stock issuable upon exercise of outstanding warrants with a weighted-average exercise price of $1.25 per share; and
- 843,786 shares of our common stock reserved for future grants pursuant to our 2007 Equity Compensation Plan, as amended.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables summarize our consolidated financial data. You should read this summary consolidated financial data together with the section entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes that are included elsewhere in this prospectus.

The consolidated statement of operations data for the years ended June 30, 2015 and 2014 are derived from our audited consolidated financial statements that are included elsewhere in this prospectus. The consolidated statement of operations data for the nine months ended March 31, 2016 and 2015, and the consolidated balance sheet data as of March 31, 2016, are derived from our unaudited condensed consolidated financial statements that are included elsewhere in this prospectus. The unaudited condensed consolidated financial statements were prepared on a basis consistent with our audited consolidated financial statements and include, in management’s opinion, all adjustments, consisting only of normal recurring adjustments that we consider necessary for a fair presentation of the financial information set forth in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and our interim results are not necessarily indicative of the results to be expected for the full year or any other period.

	Years Ended June 30,		Nine Months Ended March 31, (unaudited)	
	2015	2014	2016	2015
Consolidated Statement of Operations Data:				
Revenue	$31,900,143	$28,483,175	$26,066,544	$24,319,637
Cost of revenue	25,723,942	23,029,663	21,150,881	19,606,613
Gross profit	6,176,201	5,453,512	4,915,663	4,713,024
Operating expenses	6,670,653	6,508,498	5,305,411	4,780,291
Income (loss) from continuing operations	(542,185)	(1,084,132)	(444,869)	(102,928)
Income (loss) from discontinued operations	1,316,404	(782,286)	-	1,152,951
Net income (loss)	$774,219	$(1,866,418)	$(444,869)	$1,050,023
Net income (loss) per share:				
Basic	$0.04	$(0.11)	$(0.03)	$0.06
Diluted	$0.04	$(0.11)	$(0.03)	$0.06
Weighted average shares outstanding:				
Basic	17,445,812	17,230,311	17,642,449	17,440,275
Diluted	17,962,157	17,230,311	17,642,449	17,893,217

	March 31, 2016 (unaudited)
Consolidated Balance Sheet Data:	

Current assets	$ 7,749,371
Total assets	7,960,986
Total liabilities	6,793,454
Total stockholders' equity	1,167,532

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this prospectus, including our consolidated financial statements and related notes, before investing in our common stock. The following summarizes material risks that investors should carefully consider before deciding to buy or maintain an investment in our common stock. Any of the following risks, if they actually occur, would likely harm our business, financial condition and results of operations. As a result, the trading price of our common stock could decline, and investors could lose the money they paid to buy our common stock.

Risks Related to Our Business and Our Industry

We have incurred significant losses, and may be unable to maintain profitability. If we continue to incur losses, we may have to curtail our operations, which may prevent us from successfully operating and expanding our business.

Historically, we have relied upon cash from financing activities to fund substantially all of the cash requirements of our activities and have incurred significant losses and experienced negative cash flow. For the nine months ended March 31, 2016, we incurred a net loss of $444,869. As of March 31, 2016, we had an accumulated deficit of $15,529,306. We cannot predict if we will be profitable. We may continue to incur losses for an indeterminate period of time and may be unable to sustain profitability. An extended period of losses and negative cash flow may prevent us from successfully operating and expanding our business. We may be unable to sustain or increase our profitability on a quarterly or annual basis.

The loss of our largest customers would significantly reduce our revenue and adversely affect our results of operations.

There were no customers that accounted for greater than 10% of our revenue for the nine months ended March 31, 2016 and 2015. The loss of our largest customers would significantly reduce our revenue, which would have a material adverse effect on our results of operations. We can provide no assurance that these customers will continue to place orders in the future.

The loss of our largest suppliers of content would significantly reduce our revenue and adversely affect our results of operations.

Approximately 29% and 41% of our content cost for the nine months ended March 31, 2016 and 2015, respectively, was derived from our three largest suppliers of content. Loss of any or all of these suppliers of content would significantly reduce the attractiveness of our services and our revenue, which would have a material adverse effect on our results of operations. We can provide no assurance that these suppliers of content will continue to supply us with content in the future. Moreover, our arrangements with content providers are non-exclusive. As a result, our content providers can provide the same content to our competitors.

We are exposed to credit risk on our accounts receivable and prepayments to suppliers of content. This risk is heightened during periods when economic conditions worsen.

Approximately 13% of our accounts receivable as of June 30, 2015 was receivable from our largest customer. There were no customers that accounted for greater than 10% of our accounts receivable as of March 31, 2016. In addition, we have made prepayments to suppliers of content. While we have procedures to monitor and limit exposure to credit risk on our trade receivables as well as long-term prepayments, there can be no assurance such procedures will effectively limit our credit risk and avoid losses, which could have a material adverse effect on our results of operations.

Our services, technology and industry relationships are key assets and competitive advantages of our company and our business may be affected by how we are perceived in the marketplace.

Our services, technology and industry relationships are key assets that enable us to effectively compete in our industry. Our ability to attract and retain customers is highly dependent upon external perceptions of the quality, efficacy, responsiveness and ease-of-use of our services and business practices, and overall financial condition. Negative perceptions or publicity regarding these matters could damage our reputation with customers and the public, which could make it difficult for us to attract and maintain customers. Adverse developments with respect to our industry may also, by association, negatively impact our reputation. Negative perceptions or publicity could have a material adverse effect on our business and financial results.

Our business performance is dependent upon the effectiveness of our technology investments, the failure of which could materially impact our business and financial results.

We have and will continue to undertake significant investments in our technology infrastructure to continually strengthen our position in research and marketing solutions and improve our existing technology platform. We may fail to effectively invest such amounts, or we may invest significant amounts in technologies that do not ultimately assist us in achieving our strategic goals. We may also fail to maintain our technology infrastructure in a manner that allows us to readily meet our customers' needs. If we experience any of these or similar failures related to our technology investments, we will not achieve our expected revenue growth, or desired cost savings, and we could experience a significant competitive disadvantage in the marketplace, which could have a material adverse effect on our business and financial results.

In addition, the failure to continue to invest in our business could result in a material adverse effect on our future financial results. Such investments may include: executing on, and mitigating risks associated with, new product offerings and entrance into new geographic markets; and ensuring continued compatibility of our new platforms and technologies with our customers' networks and systems.

We may be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies.

Third parties, including our content providers, may assert claims of infringement of intellectual property rights against us or our customers for which we may be liable or have an indemnification obligation. Any claim of infringement by a third party, even those without merit, could cause us to incur substantial costs defending against the claim and could distract our management from our business. Although third parties may offer a license to their content, the terms of any offered license may not be acceptable and the failure to obtain a license or the costs associated with any license could cause our business, results of operations or financial condition to be materially and adversely affected. In addition, our licenses are generally non-exclusive, and therefore our competitors may have access to the same content licensed to us. Furthermore, a successful claimant could secure a judgment or we may agree to a settlement that prevents us from providing certain content or that requires us to pay substantial damages, including treble damages if we are found to have willfully infringed the claimant's copyrights, royalties or other fees. Any of these events could seriously harm our business, operating results and financial condition.

Our industry is subject to intense competition and rapid technological change, which may result in products or new solutions that are superior to our products or solutions under development. If we are unable to anticipate or keep pace with changes in the marketplace and the direction of technological innovation and customer demands, our products or solutions may become less useful or obsolete and our operating results will suffer.

The industry in which we operate in general is subject to intense and increasing competition and rapidly evolving technologies. Because our products are expected to have long development cycles, we must anticipate changes in the marketplace and the direction of technological innovation and customer demands. To compete successfully, we will need to demonstrate the advantages of our products and solutions.

Our future success will depend in large part on our ability to establish and maintain a competitive position in current and future technologies. Rapid technological development may render our products under development, or any future solutions we may have, and related technologies obsolete. Many of our competitors have or may have greater corporate, financial, operational, sales and marketing resources, and more experience in research and development than we have. We cannot assure you that our competitors will not succeed in developing or marketing technologies or products that are more effective or commercially attractive than our products or that would render our solutions and related technologies obsolete. We may not have or be able to raise or develop the financial resources, technical expertise, or support capabilities to compete successfully in the future. Our success will depend in large part on our ability to maintain a competitive position with our products and solutions.

Increased accessibility of free or relatively inexpensive information sources may reduce demand for our products and services.

In recent years, more public sources of free or relatively inexpensive information have become available, particularly through the Internet, and this trend is expected to continue. For example, some governmental and regulatory agencies have increased the amount of information they make publicly available at no cost. Public sources of free or relatively inexpensive information may reduce demand for our products and services. Our financial results may be adversely affected if our customers choose to use these public sources as a substitute for our products or services.

We depend on the services of Peter Victor Derycz and other key personnel, and may not be able to operate and grow our business effectively if we lose their services or are unable to attract qualified personnel in the future.

Our success depends in part upon the continued service of Peter Victor Derycz, who is our President and Chief Executive Officer. Mr. Derycz is critical to the overall management of our company as well as to the development of our technologies, our culture and our strategic direction and is instrumental in developing and maintaining close ties with our customer base. We also rely heavily on our senior management team because they have substantial experience with our diverse service offerings and business strategies. In addition, we rely on our senior management team to identify internal expansion and external growth opportunities. Our ability to retain senior management and other key personnel is therefore very important to our future success. We have employment agreements with our senior management, but these employment agreements do not ensure that they will not voluntarily terminate their employment with us. In addition, our key personnel are subject to non-solicitation and confidential information restrictions. We do not have key man insurance for any of our current management or other key personnel. The loss of any key personnel would require the remaining key personnel to divert immediate attention to seeking a replacement. Competition for senior management personnel is intense, and fit is important to us. Our inability to find a suitable replacement for any departing executive officer or key employee on a timely basis could adversely affect our ability to operate and grow our business.

We rely on our proprietary software systems, and our websites and online networks, and a disruption, failure or security compromise of these systems would disrupt our business, damage our reputation and adversely affect our revenue and profitability.

Our proprietary software systems are critical to our business because they enable the efficient and timely service of a large number of customer orders. Similarly, we rely on our websites, online networks, and email systems to obtain content and deliver customer orders, and provide timely, relevant and dependable business information to our customers. Therefore, network or system shutdowns caused by events such as computer hacking, sabotage, dissemination of computer viruses, worms and other destructive or disruptive software, denial of service attacks and other malicious activity, as well as loss of service from third parties, power outages, natural disasters and similar events, could affect our ability to store, handle and deliver data and services to our customers. Any such interruption of our operations could negatively impact customer satisfaction and revenue.

Breaches of our data security systems or unintended disclosure of our customer data could result in large expenditures to repair or replace such systems, to remedy any security breaches and to protect us from similar events in the future.

In addition to shutdowns, our systems are subject to risks caused by misappropriation, misuse, leakage, falsification and accidental release or loss of information, including sensitive data maintained in our proprietary software systems

and credit card information of our customers. As a result of the increasing awareness concerning the importance of safeguarding information, ongoing attempts to hack and misuse companies' information, and legislation that continues to be adopted regarding the protection and security of information, information-related costs and risks are increasing.

Disruptions or security compromises of our systems could result in large expenditures to repair or replace such systems, to remedy any security breaches and protect us from similar events in the future. We also could be exposed to negligence claims or other legal proceedings brought by our customers or their clients, and we could incur significant legal expenses and our management's attention may be diverted from our operations in defending ourselves against and resolving lawsuits or claims. In addition, if we were to suffer damage to our reputation as a result of any system failure or security compromise, our revenue and profitability could be adversely affected.

Our failure to comply with the covenants contained in our loan agreement could result in an event of default that could adversely affect our financial condition and ability to operate our business as planned.

We currently have a line of credit with Silicon Valley Bank, maturing on October 31, 2017, under which there were no outstanding borrowings as of June 30, 2016. Our loan agreement contains, and any agreements to refinance our debt likely will contain, financial and restrictive covenants. While we were in compliance with these covenants as of June 30, 2016, we failed to comply with the tangible net worth covenant in December 2011 and July 2013. On both occasions the parties agreed to amend and reset the minimum tangible net worth required under the covenant. Our failure to comply with these covenants in the future may result in an event of default, which if not cured or waived, could result in the bank preventing us from accessing availability under our line of credit and requiring us to repay any outstanding borrowings. There can be no assurance that we will be able to obtain waivers of future covenant violations or that such waivers will be available on commercially acceptable terms.

In addition, the indebtedness under our loan agreement is secured by a security interest in substantially all of our tangible and intangible assets, and therefore, if we are unable to repay such indebtedness the bank could foreclose on these assets and sell the pledged equity interests, which would adversely affect our ability to operate our business. If any of these were to occur, we may not be able to continue operations as planned, implement our planned growth strategy or react to opportunities for or downturns in our business.

Government regulations related to the Internet could increase our cost of doing business, affect our ability to grow or may otherwise negatively affect our business.

Governmental agencies and federal and state legislatures have adopted, and may continue to adopt, new laws and regulatory practices in response to the increasing use of the Internet and other online services. These new laws may be related to issues such as online privacy, copyrights, trademarks and service mark, sales taxes, fair business practices, domain name ownership and the requirement that our operating units register to do business as foreign entities or otherwise be licensed to do business in jurisdictions where they have no physical location or other presence. In addition, these new laws, regulations or interpretations relating to doing business through the Internet could increase our costs materially and adversely affect our revenue and results of operations.

We may be adversely affected by changes in legislation and regulation.

Laws relating to communications, data protection, e-commerce, direct marketing and digital advertising and the use of public records have become more prevalent in recent years. Existing and proposed legislation and regulations, including changes in the manner in which such legislation and regulations are interpreted by courts in the United

States, Europe and other jurisdictions, may impose limits on our collection and use of certain kinds of information and our ability to communicate such information effectively to our customers. It is difficult to predict in what form laws and regulations will be adopted or how they will be construed by the relevant courts, or the extent to which nay changes might adversely affect us.

Our growth strategy may require significant additional resources, and such additional resources might not be available on terms acceptable to us, if at all, which may in turn hamper our growth and adversely affect our business.

Our growth strategy will require us to significantly expand the capabilities of our administrative and operational resources. We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new technology, improve our operating infrastructure or acquire complementary businesses and technologies. Accordingly, we may need to undertake equity, equity-linked or debt financings to secure additional funds. If we raise additional funds through future issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock. Any debt financing that we secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, including the ability to pay dividends. This may make it more difficult for us to obtain additional capital and to pursue business opportunities. We may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and respond to business challenges could be significantly impaired, and our business may be adversely affected. In addition, our failure to successfully manage our growth could result in our sales not increasing commensurately with our capital investments. If we are unable to successfully manage our growth, we may be unable to achieve our goals.

Acquisitions, joint ventures or similar strategic relationships may disrupt or otherwise have a material adverse effect on our business and financial results.

As part of our strategy, we may explore strategic acquisitions and combinations, including the acquisition of customer lists, or enter into joint ventures or similar strategic relationships. These transactions are subject to the following risks:

- Acquisitions, joint ventures or similar relationships may cause a disruption in our ongoing business, distract our management and make it difficult to maintain our standards, controls and procedures;
- We may not be able to integrate successfully the services, content, products and personnel of any such transaction into our operations;
- We may not derive the revenue improvements, cost savings and other intended benefits of any such transaction; and
- There may be risks, exposures and liabilities of acquired entities or other third parties with whom we undertake a transaction, that may arise from such third parties' activities prior to undertaking a transaction with us.

Our prior acquisitions have resulted in significant impairment charges and have operated at losses. Our acquisition of Pools Press, Inc. ("Pools") in 2010 resulted in an impairment loss of $223,385 during the year ended June 30, 2012 and operations were discontinued in June 2013.

Our acquisition of TAAG in 2011 resulted in an impairment loss of $1,602,638 during the year ended June 30, 2012 and TAAG has incurred significant net losses since the acquisition.

On August 18, 2014, our board of directors authorized the immediate disposal of our former subsidiary TAAG at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, we relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements. In accordance with consolidation guidance we derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,711,748 recorded on the consolidated statements of operations for the year ended June 30, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. We have determined based on discussion with French counsel

that it is remote that we will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, we have eliminated any respective liability as of June 30, 2015.

We can provide no assurance that future acquisitions, joint ventures or strategic relationships will be accretive to our business overall or will result in profitable operations.

We are subject to risks related to our foreign operations which could adversely affect our operations and financial performance.

We have an operational and administrative support organization in Mexico, and sell our services worldwide. Foreign operations are subject to various risks which could have a material adverse effect on those operations or our business as a whole, including: exposure to local economic conditions; exposure to local political conditions; currency exchange rate fluctuations; reliance of local management; and additional potential costs of complying with rules and regulations of foreign jurisdictions. Any adverse consequence resulting from the materialization of the foregoing risks would adversely affect our financial performance and results of operations.

Unfavorable general economic conditions in the United States, Europe, or in other major markets could negatively impact our financial performance.

Unfavorable general economic conditions, such as a recession or economic slowdown in the United States, Europe, Japan, or in one or more of our other major markets, could negatively affect demand for our services and our results of operations. Under difficult economic conditions, businesses may seek to reduce spending on our services, or shift away from our services to in-house alternatives.

Risks Relating to Ownership of Our Common Stock

We cannot predict the extent to which an active public trading market for our common stock will develop or be sustained. If an active public trading market does not develop or cannot be sustained, you may be unable to liquidate your investment in our common stock.

We cannot predict the extent to which an active public market for our common stock will develop or be sustained due to a number of factors, including the fact that we are a small company that is relatively unknown to stock analysts, stock brokers, institutional investors, and others in the investment community that generate or influence sales volume, and that even if we came to the attention of such persons, they tend to be risk-averse and would be reluctant to follow an unproven company such as ours or purchase or recommend the purchase of our shares of common stock until such time as we became more seasoned and viable. As a consequence, there may be periods of several days or more when trading activity in our shares is minimal or non-existent, as compared to a seasoned issuer which has a large and steady volume of trading activity that will generally support continuous sales without an adverse effect on share price. We cannot give you any assurance that an active public trading market for our common stock will develop or be sustained. If such a market cannot be sustained, you may be unable to liquidate your investment in our common stock.

Our common stock may be subject to significant price volatility which may have an adverse effect on your ability to liquidate your investment in our common stock.

The market for our common stock may be characterized by significant price volatility when compared to seasoned issuers, and we expect that our share price will be more volatile than a seasoned issuer for the indefinite future. The potential volatility in our share price is attributable to a number of factors. First, our common shares may be sporadically and/or thinly traded. As a consequence of this lack of liquidity, the trading of relatively small quantities of shares by our stockholders may disproportionately influence the price of those shares in either direction. The price for our shares could, for example, decline precipitously in the event that a large number of our common shares are sold on the market without commensurate demand, as compared to a seasoned issuer that could better absorb those sales without adverse impact on its share price. Secondly, an investment in us is a speculative or “risky” investment due to our lack of meaningful profits to date and uncertainty of future profits. As a consequence of this enhanced risk, more risk-adverse investors may, under the fear of losing all or most of their investment in the event of negative news or lack of progress, be more inclined to sell their shares on the market more quickly and at greater discounts than would be the case with the stock of a seasoned issuer.

We have not paid cash dividends in the past and do not expect to pay cash dividends in the foreseeable future. Any return on your investment may be limited to increases in the market price of our common stock.

We have never paid cash dividends on our common stock and do not anticipate paying cash dividends on our common stock in the foreseeable future. In addition, our Loan and Security Agreement with Silicon Valley Bank prohibits us from paying cash dividends. The payment of dividends on our common stock will depend on our earnings, financial condition and other business and economic factors affecting us at such time as the board of directors may consider relevant. If we do not pay dividends, our common stock may be less valuable because a return on your investment might only occur if the market price of our common stock appreciates.

Voting power of a significant percentage of our common stock is held by our president and chief executive officer, and his brother-in-law, who together are able to exercise significant influence over the outcome of matters to be voted on by our stockholders.

As of June 30, 2016, Peter Victor Derycz, our President and Chief Executive Officer, had voting power equal to approximately 15% of votes eligible to be cast at a meeting of our stockholders. Paul Kessler, the brother-in-law of Mr. Derycz, exercises investment and voting control over the shares held by Bristol Investment Fund, Ltd., and had, as of June 30, 2016, voting power equal to approximately 20% of votes eligible to be cast at a meeting of our stockholders. As a result of their significant ownership interests, Mr. Derycz and Mr. Kessler together currently have the ability to exert significant influence over matters submitted to a vote of all of our stockholders. They may also have interests that differ from yours and may vote in a manner that is adverse to your interests. This concentration of ownership may have the effect of deterring, delaying or preventing a change of control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock.

The exercise of outstanding options and warrants to purchase our common stock could substantially dilute your investment.

Under the terms of our outstanding options and warrants to purchase our common stock issued to employees and others, the holders are given an opportunity to profit from a rise in the market price of our common stock that, upon the exercise of the options and/or warrants, could result in dilution in the interests of our other stockholders.

The market price of our common stock and the value of your investment could substantially decline if our warrants or options are exercised and our common stock is issued and resold into the market, or if a perception exists that a substantial number of shares will be issued upon exercise of our warrants and option and then resold into the market.

If the exercise prices of our warrants or options are lower than the price at which you made your investment, immediate dilution of the value of your investment will occur. In addition, sales of a substantial number of shares of common stock issued upon exercise of our warrants and options, or even the perception that such sales could occur, could adversely affect the market price of our common stock. You could, therefore, experience a substantial decline in the value of your investment as a result of both the actual and potential exercise of our warrants or options.

Because we are subject to the "Penny Stock" rules, the level of trading activity in our common stock may be reduced.

Our common stock is currently quoted on the OTC Markets Group's OTCQB market under the symbol "RSSS." As of June 30, 2016, the last reported sale price of our common stock on the OTCQB was $1.08. As a result, our common stock constitutes a "Penny Stock." Broker-dealer practices in connection with transactions in Penny Stocks are regulated by rules adopted by the Securities and Exchange Commission, or SEC. Penny Stocks are generally equity securities with a price per share of less than $5.00 (other than securities registered on certain national exchanges). The Penny Stock rules require a broker-dealer, prior to a transaction in Penny Stocks not exempt from the rules, to deliver a standardized risk disclosure document that provides information about Penny Stocks and the nature and level of risks in the Penny Stock market. The broker-dealer must also provide the customer with current bid and offer quotations for the Penny Stock, the compensation of the broker-dealer and the salesperson in the transaction, and monthly accounting statements showing the market value of each Penny Stock held in the customer's account. In addition, the broker-dealer must make a special written determination that the Penny Stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. These requirements may have the effect of reducing the level of trading activity in a Penny Stock, such as our common stock, and investors in our common stock may find it difficult to sell their shares.

Because our common stock is not currently listed on a national securities exchange, you may find it difficult to dispose of or obtain quotations for our common stock.

Our common stock is quoted on the OTCQB under the symbol "RSSS." Because our stock is quoted on the OTCQB rather than on a national securities exchange, you may find it difficult to either dispose of, or to obtain quotations as to the price of, our common stock.

Failure to achieve and maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act of 2002 could result in a restatement of our financial statements, cause investors to lose confidence in our financial statements and our company and have a material adverse effect on our business and stock price.

We produce our financial statements in accordance with accounting principles generally accepted in the United States, or GAAP. Effective internal controls are necessary for us to provide reliable financial reports to help mitigate the risk of fraud and to operate successfully as a publicly traded company. As a public company, we are required to document and test our internal control procedures in order to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404. Further, Section 404 requires annual management assessments of the effectiveness of our internal controls over financial reporting.

Testing and maintaining internal controls can divert our management's attention from other matters that are important to our business. We may not be able to conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404. If we are unable to conclude that we have effective internal controls over financial reporting, investors could lose confidence in our reported financial information and our company, which could result in a decline in the market price of our common stock, and cause us to fail to meet our reporting obligations in the future, which in turn could impact our ability to raise additional financing if needed in the future.

Our board of directors has broad discretion to issue additional securities.

We are entitled under our certificate of incorporation to issue up to 100,000,000 shares of common stock and 20,000,000 shares of "blank check" preferred stock, although these amounts may change in the future subject to stockholder approval. Shares of our blank check preferred stock provide our board of directors' broad authority to determine voting, dividend, conversion, and other rights. As of June 30, 2016 we had issued and outstanding 23,809,593 shares of common stock and we had 5,550,979 shares of common stock reserved for future grants under our equity compensation plans and for issuances upon the exercise or conversion of currently outstanding options, warrants and convertible securities. As of June 30, 2016, we had no shares of preferred stock issued and outstanding. Accordingly, as of June 30, 2016, we could issue up to 70,639,428 additional shares of common stock and 20,000,000 additional shares of "blank check" preferred stock. Any additional stock issuances could be made at a price that reflects a discount or premium to the then-current market price of our common stock. In addition, in order to raise capital, we may need to issue securities that are convertible into or exchangeable for a significant amount of our common stock. Our board may generally issue those common and preferred shares, or convertible securities to purchase those shares, without further approval by our stockholders. Any preferred shares we may issue could have such rights, preferences, privileges and restrictions as may be designated from time-to-time by our board, including preferential dividend rights, voting rights, conversion rights, redemption rights and liquidation provisions. We may also issue additional securities to our directors, officers, employees and consultants as compensatory grants in connection with their services, both in the form of stand-alone grants or under our stock incentive plans. The issuance of additional securities may cause substantial dilution to our stockholders.

Our articles of incorporation, bylaws and Nevada law have anti-takeover provisions that could discourage, delay or prevent a change in control, which may cause our stock price to decline.

Our articles of incorporation, bylaws and Nevada law contain provisions which could make it more difficult for a third party to acquire us, even if closing such a transaction would be beneficial to our stockholders. We are currently authorized to issue up to 20,000,000 shares of "blank check" preferred stock. This preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by our board of directors without further action by stockholders. The terms of any series of preferred stock may include voting rights (including the right to vote as a series on particular matters), preferences as to dividend, liquidation, conversion and redemption rights and sinking fund provisions. No shares of our preferred stock are currently outstanding. The issuance of any preferred

stock could materially adversely affect the rights of the holders of our common stock, and therefore, reduce the value of our common stock. In particular, specific rights granted to future holders of preferred stock could be used to restrict our ability to merge with, or sell our assets to, a third party and thereby preserve control by current management.

Provisions of our articles of incorporation, bylaws and Nevada law also could have the effect of discouraging potential acquisition proposals or making a tender offer or delaying or preventing a change in control, including changes a stockholder might consider favorable. Such provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management. In particular, our articles of incorporation, our bylaws and Nevada law, as applicable, among other things, provide our board of directors with the ability to alter our bylaws without stockholder approval, and provide that vacancies on our board of directors may be filled by a majority of directors in office, although less than a quorum.

We may become subject to Nevada's control share acquisition laws (Nevada Revised Statutes 78.378 -78.3793), which prohibit an acquirer, under certain circumstances, from voting shares of a corporation's stock after crossing specific threshold ownership percentages, unless the acquirer obtains the approval of the issuing corporation's stockholders. We are also subject to Nevada's Combination with Interested Stockholders Statute (Nevada Revised Statutes 78.411 -78.444) which prohibits an interested stockholder from entering into a "combination" with the corporation, unless certain conditions are met. These provisions are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of our company to first negotiate with our board of directors. These provisions may delay or prevent someone from acquiring or merging with us, which may cause the market price of our common stock to decline.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Business” contains forward-looking statements. The words “believe,” “may,” “will,” “potentially,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “pla “expect” and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements. These forward-looking statements include, but are not limited to, statements concerning the following:

- our future financial and operating results;
- our intentions, expectations and beliefs regarding anticipated growth, market penetration and trends in our business;
- our ability to attract and retain customers;
- our dependence on growth in our customers’ businesses;
- the effects of changing customer needs in our market;
- the effects of market conditions on our stock price and operating results;
- our ability to maintain our competitive advantages against competitors in our industry;
- our ability to timely and effectively adapt our existing technology and have our technology solutions gain market acceptance;
- our ability to introduce new offerings and bring them to market in a timely manner;
- our ability to maintain, protect and enhance our intellectual property;
- the effects of increased competition in our market and our ability to compete effectively;

- our plans to use the proceeds from this offering;
- our expectations concerning relationships with customers and other third parties;
- the attraction and retention of qualified employees and key personnel;
- future acquisitions of or investments in complementary companies or technologies; and
- our ability to comply with evolving legal standards and regulations.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in "Risk Factors" and elsewhere in this prospectus. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for us to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in our forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations, except as required by law.

You should read this prospectus and the documents that we reference in this prospectus and have filed with the Securities and Exchange Commission as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

This prospectus includes market and industry data that has been obtained from third party sources, including industry publications, as well as industry data prepared by our management on the basis of its knowledge of and experience in the industries in which we operate (including our management's estimates and assumptions relating to such industries based on that knowledge). Management's knowledge of such industries has been developed through its experience and participation in these industries. While our management believes the third party sources referred to in this prospectus are reliable, neither we nor our management have independently verified any of the data from such sources referred to in this prospectus or ascertained the underlying economic assumptions relied upon by such sources. Internally prepared and third party market forecasts, in particular, are estimates only and may be inaccurate, especially over long periods of time. Furthermore, references in this prospectus to any publications, reports, surveys or articles prepared by third parties should not be construed as depicting the complete findings of the entire publication, report, survey or article. The information in any such publication, report, survey or article is not incorporated by reference in this prospectus.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares of common stock by the selling stockholders.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock. In addition, our Loan and Security Agreement with Silicon Valley Bank prohibits us from paying cash dividends. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future, if at all. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

MARKET PRICE INFORMATION

Our common stock is quoted on the OTCQB under the symbol "RSSS." The following table sets forth, for the periods indicated, the reported high and low bid quotations for our common stock as reported on the OTCQB. The bid prices reflect inter-dealer quotations, do not include retail markups, markdowns, or commissions, and do not necessarily reflect actual transactions.

	High Bid	Low Bid
Year Ended June 30, 2014		
First Quarter (July 1 – September 30)	$ 1.90	$ 1.45
Second Quarter (October 1 – December 31)	$ 2.06	$ 1.40
Third Quarter (January 1 – March 31)	$ 2.35	$ 1.51
Fourth Quarter (April 1 – June 30)	$ 1.96	$ 0.92
Year Ended June 30, 2015		
First Quarter (July 1 – September 30)	$ 1.22	$ 0.57
Second Quarter (October 1 – December 31)	$ 0.95	$ 0.58
Third Quarter (January 1 – March 31)	$ 1.10	$ 0.66
Fourth Quarter (April 1 – June 30)	$ 1.16	$ 0.87
Year Ended June 30, 2016		
First Quarter (July 1 – September 30)	$ 1.05	$ 0.70
Second Quarter (October 1 – December 31)	$ 0.89	$ 0.55
Third Quarter (January 1 – March 31)	$ 0.88	$ 0.49
Fourth Quarter (April 1 – June 30)	$ 1.20	$ 0.84

As of June 30, 2016, we had a total of 23,809,593 shares of our common stock outstanding and the closing sales price was $1.08 per share on the OTCQB. We had 42 record holders of our common stock as of June 30, 2016. Because brokers and other institutions hold shares on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION
AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and related notes appearing elsewhere in this prospectus. Our discussion includes forward-looking statements based upon current expectations that involve risks and uncertainties, such as our plans, objectives, expectations and intentions. Actual results and the timing of events could differ materially from those anticipated in these forward-looking statements as a result of a number of factors, including those set forth under "Risk Factors" and elsewhere in this prospectus.

Overview

Research Solutions was incorporated in the State of Nevada on November 2, 2006, and in November 2006 entered into a Share Exchange Agreement with Reprints Desk. At the closing of the transaction contemplated by the Share Exchange Agreement, Research Solutions acquired all of the outstanding shares of Reprints Desk from its stockholders and issued 8,000,003 shares of common stock to the former stockholders of Reprints Desk. Following completion of the exchange transaction, Reprints Desk became a wholly-owned subsidiary of Research Solutions. Reprints Desk provides Article Galaxy and Reprint and ePrint services.

On July 24, 2012, we formed Reprints Desk Latin America to provide operational and administrative support services to Reprints Desk.

On March 4, 2013, we consummated a merger with DYSC Subsidiary Corporation, our wholly-owned subsidiary, pursuant to which we, in connection with such merger, amended our Articles of Incorporation to change our name to Research Solutions, Inc. (formerly Derycz Scientific, Inc.).

On February 28, 2007, we entered into an agreement with Pools Press, Inc., an Illinois corporation, pursuant to which we acquired 75% of the issued and outstanding common stock of Pools for consideration of $616,080. We purchased the remaining interest in Pools that we did not already own on August 31, 2010. The results of Pools' operations have been included in our consolidated financial statements since March 1, 2007. On January 1, 2012, Pools merged with and into Reprints Desk. Pools provided printing services, specializing in reprints, until operations were discontinued in June 2013.

On March 31, 2011, we entered into an agreement with Fimmotaag, S.p.A. ("Fimmotaag"), a privately held company domiciled in France, pursuant to which we acquired 100% of the issued and outstanding common stock of TAAG in exchange for 336,921 shares of our common stock in addition to future payments payable at the option of Fimmotaag in cash or our common stock under the terms of the purchase agreement. On March 28, 2013, we entered into a Settlement Agreement with Fimmotaag and its two principal owners (the "Settlement Agreement"), pursuant to which Fimmotaag agreed to return 336,921 shares of our common stock to us and to forego future payments payable to Fimmotaag by us pursuant to the terms of the agreement under which we acquired TAAG from Fimmotaag.

On August 18, 2014, our board of directors authorized the immediate disposal of our former subsidiary TAAG at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, we relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements.

In accordance with consolidation guidance we derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,548,295 recorded on the consolidated statements of operations for the nine months ended March 31, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. We have determined based on discussions with French counsel that it is remote that we will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, we have eliminated any respective liability as of June 30, 2015.

We provide on-demand access to scientific, technical, and medical information for life science companies, academic institutions, and other research-intensive organizations. We provide two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

Article Galaxy, our cloud-based software-as-a-service ("SaaS") solution, provides our customers with a single source to the universe of published STM content that includes over seventy million existing STM articles and over one million newly published STM articles each year. Article Galaxy allows customers to find and download in digital format STM articles that are critical to their research. In addition, Article Galaxy facilitates customers' compliance with applicable copyright laws.

Researchers and regulatory personnel in life science and other research-intensive organizations generally require single copies of published STM journal articles for use in their research activities. They place orders with us for the articles they need and we source and electronically deliver the requested content to them generally in under an hour. This service is known in the industry as single article delivery or document delivery. We also obtain the necessary permissions from the content publisher so that our customer's use complies with applicable copyright laws. We have arrangements with numerous content publishers that allow us to distribute their content. The majority of these publishers provide us with electronic access to their content, which allows us to electronically deliver single articles to our customers often in a matter of minutes. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to the addition or loss of customers.

We deliver research solutions through our Article Galaxy journal article platform ("Article Galaxy"). We have developed proprietary software and Internet-based interfaces that allow customers to initiate orders, manage transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and enhance the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around scientific information.

As a cloud-based SaaS solution, Article Galaxy is deployed as a single system across our entire customer base. Customers access Article Galaxy securely through online web interfaces and via web service APIs, which enable customers to leverage Article Galaxy features and functionality from within proprietary and other 3rd party software systems. Article Galaxy can also be configured to satisfy a customer's individual preferences in areas such as user experience, business processes, and spend management. As a SaaS solution, Article Galaxy benefits from efficiencies in scalability, stability and development costs, resulting in significant advantages versus multiple instance or installed desktop software alternatives. We leverage these technical efficiencies to fuel rapid innovation and competitive

advantage.

Reprints and ePrints

Marketing departments in life science and other research-intensive organizations generally require large quantities of printed copies of published STM journal articles called “Reprints” that are distributed to physicians and at conferences. We obtain the necessary permissions from the content publisher so that our customer’s use complies with applicable copyright laws. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. Electronic copies, called “ePrints”, are also used for distribution through the Internet and other electronic mechanisms. We have developed proprietary ePrint software that increases the efficiency of our customers’ content purchases by transitioning from paper Reprints to electronic ePrints, and by improving compliance with applicable copyright laws and promotional regulations within the life science industry. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements in conformity with accounting principles generally accepted in the United States, or GAAP, requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. When making these estimates and assumptions, we consider our historical experience, our knowledge of economic and market factors and various other factors that we believe to be reasonable under the circumstances. Actual results may differ under different estimates and assumptions.

The accounting estimates and assumptions discussed in this section are those that we consider to be the most critical to an understanding of our financial statements because they inherently involve significant judgments and uncertainties.

Revenue Recognition

Our policy is to recognize revenue when services have been performed, risk of loss and title to the product transfers to the customer, the selling price is fixed or determinable, and collectability is reasonably assured. We generate revenue by providing two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

We charge a transactional service fee for the electronic delivery of single articles, and a corresponding copyright fee for the permitted use of the content. This service, known in the industry as single article delivery or document delivery, generates nearly all of the revenue attributable to the Article Galaxy journal article platform. We recognize revenue from single article delivery services upon delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Reprints and ePrints

We charge a transactional fee for each Reprint or ePrint order and are responsible for printing and delivery of Reprint orders, and the electronic delivery and, in some cases, the electronic delivery mechanism of ePrint orders. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. We recognize revenue from reprints and ePrints services upon shipment or electronic delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Stock-Based Compensation

We periodically issue stock options, warrants and restricted stock to employees and non-employees for services, in capital raising transactions, and for financing costs. We account for share-based payments under the guidance as set forth in the Share-Based Payment Topic 718 of the Financial Accounting Standards Board (the “FASB”) Accounting

Standards Codification, which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, officers, directors, and consultants, including employee stock options, based on estimated fair values. We estimate the fair value of stock option and warrant awards to employees and directors on the date of grant using an option-pricing model, and the value of the portion of the award that is ultimately expected to vest is recognized as expense over the required service period in our Statements of Operations. We estimate the fair value of restricted stock awards to employees and directors using the market price of our common stock on the date of grant, and the value of the portion of the award that is ultimately expected to vest is recognized as expense over the required service period in our Statements of Operations. We account for share-based payments to non-employees in accordance with Topic 505 of the FASB Accounting Standards Codification, whereby the value of the stock compensation is based upon the measurement date as determined at either a) the date at which a performance commitment is reached, or b) the date at which the necessary performance to earn the equity instruments is complete. Stock-based compensation is based on awards ultimately expected to vest and is reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, as necessary, in subsequent periods if actual forfeitures differ from those estimates.

Allowance for doubtful accounts

We evaluate the collectability of our trade accounts receivable based on a number of factors. In circumstances where we become aware of a specific customer's inability to meet its financial obligations to us, we estimate and record a specific reserve for bad debts, which reduces the recognized receivable to the estimated amount we believe will ultimately be collected. In addition to specific customer identification of potential bad debts, bad debt charges are recorded based on our historical losses and an overall assessment of past due trade accounts receivable outstanding. We established an allowance for doubtful accounts of $52,858, $69,731 and $49,467 as of March 31, 2016, June 30, 2015 and June 30, 2014, respectively.

Foreign Currency

The accompanying consolidated financial statements are presented in United States dollars, the functional currency of our company. Capital accounts of foreign subsidiaries are translated into US dollars from foreign currencies at their historical exchange rates when the capital transactions occurred. Assets and liabilities are translated at the exchange rate as of the balance sheet date. Income and expenditures are translated at the average exchange rate of the period. Although the majority of our revenue and costs are in US dollars and the costs of Reprints Desk Latin America are in Mexican Pesos. As a result, currency exchange fluctuations may impact our revenue and the costs of our operations. We currently do not engage in any currency hedging activities.

The following table summarizes the exchange rates used:

	Nine Months Ended March 31,		Year Ended June 30,	
	2016	2015	2015	2014
Period end Euro : US Dollar exchange rate	1.14	1.09	1.11	1.36
Average period Euro : US Dollar exchange rate	1.10	1.24	1.20	1.36
Period end Mexican Peso : US Dollar exchange rate	0.06	0.07	0.06	0.08
Average period Mexican Peso : US Dollar exchange rate	0.06	0.07	0.07	0.08

Recent Accounting Pronouncements

Please refer to footnote to the consolidated financial statements contained elsewhere in this prospectus for a discussion of Recent Accounting Pronouncements.

Quarterly Information (Unaudited)

The following table sets forth unaudited and quarterly financial data for the most recent eight quarters:

	Mar. 31, 2016	Dec. 31, 2015	Sept. 30, 2015	June 30, 2015	Mar. 31, 2015	Dec. 31, 2014	Sept. 30, 2014	June 3 2014
Revenue:								
Article Galaxy	$6,515,161	$5,795,311	$5,625,704	$5,414,124	$5,666,717	$5,071,504	$5,224,629	$4,996
Reprints and ePrints	2,209,056	3,519,915	2,401,397	2,166,382	3,168,464	2,859,556	2,328,767	2,695
Total revenue	8,724,217	9,315,226	8,027,101	7,580,506	8,835,181	7,931,060	7,553,396	7,691
Cost of revenue:								
Article Galaxy	4,940,236	4,489,127	4,301,787	4,169,042	4,248,070	3,806,150	3,924,478	3,707
Reprints and ePrints	2,018,967	3,229,797	2,170,967	1,948,287	2,883,644	2,615,158	2,129,113	2,442
Total cost of revenue	6,959,203	7,718,924	6,472,754	6,117,329	7,131,714	6,421,308	6,053,591	6,149
Gross profit:								
Article Galaxy	1,574,925	1,306,184	1,323,917	1,245,082	1,418,647	1,265,354	1,300,151	1,288
Reprints and ePrints	190,089	290,118	230,430	218,095	284,820	244,398	199,654	253,1
Total gross profit	1,765,014	1,596,302	1,554,347	1,463,177	1,703,467	1,509,752	1,499,805	1,541
Operating expenses:								
Selling, general and administrative	1,537,351	1,591,022	1,559,903	1,362,790	1,494,984	1,397,517	1,307,749	1,437
Depreciation and amortization	30,310	16,096	14,738	16,934	25,005	60,792	72,088	65,25
Stock-based compensation expense	130,568	277,389	143,741	506,634	106,521	113,798	107,719	88,53
Foreign currency transaction loss (gain)	(2,829)	5,805	1,317	4,004	57,647	25,624	10,847	2,935
	1,695,400	1,890,312	1,719,699	1,890,362	1,684,157	1,597,731	1,498,403	1,594

Total operating expenses								
Net income (loss):								
Income (loss) from continuing operations	32,376	(298,425)	(178,820)	(439,257)	(1,816)	(94,176)	(6,936)	(59,7
Income (loss) from discontinued operations	-	-	-	163,453	-	-	1,152,951	(540,
Net income (loss)	$32,376	$(298,425)	$(178,820)	$(275,804)	$(1,816)	$(94,176)	$1,146,015	$(600,
Basic income (loss) per common share:								
Income (loss) per share from continuing operations	$-	$(0.02)	$(0.01)	$(0.03)	$-	$(0.01)	$-	$-
Income (loss) per share from discontinued operations	$-	$-	$-	$0.01	$-	$-	$0.07	$(0.03
Net income (loss) per share	$-	$(0.02)	$(0.01)	$(0.02)	$-	$(0.01)	$0.07	$(0.03
Basic weighted average common shares outstanding	17,707,900	17,656,087	17,564,070	17,462,484	17,457,404	17,456,711	17,406,012	17,39
Diluted income (loss) per common share:								
Income (loss) per share from continuing operations	$-	$(0.02)	$(0.01)	$(0.03)	$-	$(0.01)	$-	$-
Income (loss) per share from discontinued operations	$-	$-	$-	$0.01	$-	$-	$0.07	$(0.03

Net income (loss) per share	$-	$(0.02)	$(0.01)	$(0.02)	$-	$(0.01)	$0.07	$(0.03
Diluted weighted average common shares outstanding	18,464,000	17,656,087	17,564,070	17,462,484	17,457,404	17,456,711	17,407,428	17,39

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Comparison of the Three and Nine Months Ended March 31, 2016 and 2015

Results of Operations

	Three Months Ended March 31,		Nine Months Ended March 31,	
	2016	2015	2016	2015
Revenue	$8,724,217	$8,835,181	$26,066,544	$24,319,637
Cost of revenue	6,959,203	7,131,714	21,150,881	19,606,613
Gross profit	1,765,014	1,703,467	4,915,663	4,713,024
Operating expenses:				
Selling, general and administrative	1,537,351	1,494,984	4,688,276	4,200,250
Depreciation and amortization	30,310	25,005	61,144	157,885
Stock-based compensation expense	130,568	106,521	551,698	328,038
Foreign currency transaction loss (gain)	(2,829)	57,647	4,293	94,118
Total operating expenses	1,695,400	1,684,157	5,305,411	4,780,291
Income (loss) from operations	69,614	19,310	(389,748)	(67,267)
Other income (expenses):				
Interest expense	(6,389)	(3,875)	(14,382)	(11,666)
Other income (expense)	(25,639)	275	(18,229)	898
Total other expenses	(32,028)	(3,600)	(32,611)	(10,768)
Income (loss) from continuing operations before provision for income taxes	37,586	15,710	(422,359)	(78,035)
Provision for income taxes	(5,210)	(17,526)	(22,510)	(24,893)
Income (loss) from continuing operations	32,376	(1,816)	(444,869)	(102,928)
Discontinued operations:				
Loss from discontinued operations	-	-	-	(395,344)
Gain from deconsolidation of former French subsidiary	-	-	-	1,548,295
Income from discontinued operations	-	-	-	1,152,951
Net income (loss)	$32,376	$(1,816)	$(444,869)	$1,050,023

Revenue

	Three Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Revenue:				
Article Galaxy	$6,515,161	$5,666,717	$848,444	15.0 %
Reprints and ePrints	2,209,056	3,168,464	(959,408)	(30.3)%
Total revenue	$8,724,217	$8,835,181	$(110,964)	(1.3)%

	Nine Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Revenue:				
Article Galaxy	$17,936,176	$15,962,850	$1,973,326	12.4 %
Reprints and ePrints	8,130,368	8,356,787	(226,419)	(2.7)%
Total revenue	$26,066,544	$24,319,637	$1,746,907	7.2 %

Article Galaxy revenue increased $848,444, or 15.0%, for the three months ended March 31, 2016 compared to the three months ended March 31, 2015, and $1,973,326, or 12.4%, for the nine months ended March 31, 2016 compared to the nine months ended March 31, 2015. In both periods, the increase was primarily due to a net increase in orders resulting from the acquisition of new customers. Single article delivery services generate nearly all of the revenue attributable to the Article Galaxy journal article platform. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to addition or loss of customers.

Revenue from Reprints and ePrints decreased $959,408, or 30.3%, for the three months ended March 31, 2016 compared to the three months ended March 31, 2015, and $226,419, or 2.7%, for the nine months ended March 31, 2016 compared to the nine months ended March 31, 2015. In both periods, the decrease was primarily due to a net decrease in orders from existing customers. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Total revenue decreased $110,964, or 1.3%, for the three months ended March 31, 2016 compared to the three months ended March 31, 2015, and increased $1,746,907, or 7.2%, for the nine months ended March 31, 2016 compared to the nine months ended March 31, 2015, for the reasons described above.

Cost of Revenue

	Three Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Cost of Revenue:				
Article Galaxy	$4,940,236	$4,248,070	$692,166	16.3 %
Reprints and ePrints	2,018,967	2,883,644	(864,677)	(30.0)%
Total cost of revenue	$6,959,203	$7,131,714	$(172,511)	(2.4)%

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	Three Months Ended March 31,		
	2016	2015	**2016-2015 Change ***
As a percentage of revenue:			
Article Galaxy	75.8 %	75.0 %	0.8 %
Reprints and ePrints	91.4 %	91.0 %	0.4 %
Total	79.8 %	80.7 %	(1.0)%

* The difference between current and prior period cost of revenue as a percentage of revenue

	Nine Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Cost of Revenue:				
Article Galaxy	$13,731,150	$11,978,698	$1,752,452	14.6 %
Reprints and ePrints	7,419,731	7,627,915	(208,184)	(2.7)%
Total cost of revenue	$21,150,881	$19,606,613	$1,544,268	7.9 %

	Nine Months Ended March 31,		
	2016	2015	**2016-2015 Change ***
As a percentage of revenue:			
Article Galaxy	76.6 %	75.0 %	1.6 %
Reprints and ePrints	91.3 %	91.3 %	0.0 %
Total	81.1 %	80.6 %	0.5 %

* The difference between current and prior period cost of revenue as a percentage of revenue

Cost of revenue as a percentage of revenue from Article Galaxy increased to 75.8%, for the three months ended March 31, 2016 compared to 75.0%, for the three months ended March 31, 2015, and to 76.6%, for the nine months ended March 31, 2016 compared to 75.0%, for the nine months ended March 31, 2015. In both periods, the increase primarily resulted from a reduction in average service fee revenue per transaction on new customer accounts.

Cost of revenue as a percentage of revenue from Reprints and ePrints increased to 91.4%, for the three months ended March 31, 2016 compared to 91.0%, for the three months ended March 31, 2015, primarily due to increased content

acquisition costs.

Total cost of revenue as a percentage of revenue decreased to 79.8%, for the three months ended March 31, 2016 compared to 80.7%, for the three months ended March 31, 2015, and increased to 81.1%, for the nine months ended March 31, 2016 compared to 80.6%, for the nine months ended March 31, 2015, for the reasons described above.

Gross Profit

	Three Months Ended March 31, 2016	2015	2016-2015 $ Change	2016-2015 % Change
Gross Profit:				
Article Galaxy	$1,574,925	$1,418,647	$156,278	11.0 %
Reprints	190,089	284,820	(94,731)	(33.3)%
Total gross profit	$1,765,014	$1,703,467	$61,547	3.6 %

	Three Months Ended March 31, 2016	2015	2016-2015 Change *
As a percentage of revenue:			
Article Galaxy	24.2 %	25.0 %	(0.8)%
Reprints and ePrints	8.6 %	9.0 %	(0.4)%
Total	20.2 %	19.3 %	0.9 %

* The difference between current and prior period gross profit as a percentage of revenue

	Nine Months Ended March 31, 2016	2015	2016-2015 $ Change	2016-2015 % Change
Gross Profit:				
Article Galaxy	$4,205,026	$3,984,152	$220,874	5.5 %
Reprints	710,637	728,872	(18,235)	(2.5)%
Total gross profit	$4,915,663	$4,713,024	$202,639	4.3 %

	Nine Months Ended March 31, 2016	2015	2016-2015 Change *
As a percentage of revenue:			
Article Galaxy	23.4 %	25.0 %	(1.6)%
Reprints and ePrints	8.7 %	8.7 %	0.0 %
Total	18.9 %	19.4 %	(0.5)%

* The difference between current and prior period gross profit as a percentage of revenue

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Operating Expenses

	Three Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Operating Expenses:				
Selling, general and administrative	$1,537,351	$1,494,984	$42,367	2.8 %
Depreciation and amortization	30,310	25,005	5,305	21.2 %
Stock-based compensation expense	130,568	106,521	24,047	22.6 %
Foreign currency transaction loss (gain)	(2,829)	57,647	(60,476)	(104.9)%
Total operating expenses	$1,695,400	$1,684,157	$11,243	0.7 %

	Nine Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Operating Expenses:				
Selling, general and administrative	$4,688,276	$4,200,250	$488,026	11.6 %
Depreciation and amortization	61,144	157,885	(96,741)	(61.3)%
Stock-based compensation expense	551,698	328,038	223,660	68.2 %
Foreign currency transaction loss (gain)	4,293	94,118	(89,825)	(95.4)%
Total operating expenses	$5,305,411	$4,780,291	$525,120	11.0 %

Selling, General and Administrative

Selling, general and administrative expenses increased $42,367 or 2.8%, for the three months ended March 31, 2016 compared to the three months ended March 31, 2015, and $488,026 or 11.6%, for the nine months ended March 31, 2016 compared to the nine months ended March 31, 2015. In both periods, the increases were primarily due to increases in sales and marketing, and administrative compensation and consulting fees.

Interest Expense

For the three months ended March 31, 2016, interest expense was $6,389, compared to $3,875 for the three months ended March 31, 2015, an increase of $2,514. For the nine months ended March 31, 2016, interest expense was $14,382, compared to $11,666 for the nine months ended March 31, 2015, an increase of $2,716.

Net Income (Loss)

	Three Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Net Income (Loss):				
Income (loss) from continuing operations	$32,376	$(1,816)	$34,192	(1,882.8)%
Income from discontinued operations	-	-	-	- %
Total net income (loss)	$32,376	$(1,816)	$34,192	(1,882.8)%

	Nine Months Ended March 31,			
	2016	2015	**2016-2015 $ Change**	**2016-2015 % Change**
Net Income (Loss):				
Loss from continuing operations	$(444,869)	$(102,928)	$(341,941)	(332.2)%
Income from discontinued operations	-	1,152,951	(1,152,951)	(100.0)%
Total net income (loss)	$(444,869)	$1,050,023	$(1,494,892)	(142.4)%

Income from continuing operations increased $34,192 or 1,882.8%, for the three months ended March 31, 2016 compared to the three months ended March 31, 2015, primarily due to increased gross profit as described above. Loss from continuing operations increased $341,941 or 332.2%, for the nine months ended March 31, 2016 compared to the nine months ended March 31, 2016, primarily due to increased operating expenses as described above.

Total net income decreased $1,494,892 or 142.4%, for the nine months ended March 31, 2016 compared to the nine months ended March 31, 2015, primarily due to a gain of $1,548,295 from the deconsolidation of our former French subsidiary in September 2014.

Comparison of the Years Ended June 30, 2015 and 2014

Results of Operations

	Years Ended June 30,	
	2015	2014
Revenue	$31,900,143	$28,483,175
Cost of revenue	25,723,942	23,029,663
Gross profit	6,176,201	5,453,512
Operating expenses:		
Selling, general and administrative	5,563,040	5,917,012
Stock-based compensation expense	834,672	355,220
Depreciation and amortization	174,819	219,934
Foreign currency transaction loss	98,122	16,332
Total operating expenses	6,670,653	6,508,498
Loss from operations	(494,452)	(1,054,986)
Other expenses:		
Interest expense	(18,056)	(13,817)
Other income	1,215	770
Total other expenses	(16,841)	(13,047)
Loss from continuing operations before provision for income taxes	(511,293)	(1,068,033)
Provision for income taxes	(30,892)	(16,099)
Loss from continuing operations	(542,185)	(1,084,132)

Discontinued operations:		
Loss from discontinued operations	(395,344)	(782,286)
Gain from deconsolidation of former French subsidiary	1,711,748	-
Income (loss) from discontinued operations	1,316,404	(782,286)
Net income (loss)	$774,219	$(1,866,418)

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Revenue

	Years Ended June 30,		2015-2014	2015-2014	
	2015	2014	**$ Change**	**% Change**	
Revenue:					
Article Galaxy	$21,376,974	$18,673,515	$2,703,459	14.5	%
Reprints and ePrints	10,523,169	9,809,660	713,509	7.3	%
Total revenue	$31,900,143	$28,483,175	$3,416,968	12.0	%

Article Galaxy revenue increased $2,703,459, or 14.5%, for the year ended June 30, 2015 compared to the prior year, primarily due to a net increase in orders resulting from the acquisition of new customers. Single article delivery services generate nearly all of the revenue attributable to the Article Galaxy journal article platform. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to the addition or loss of customers.

Revenue from Reprints and ePrints increased $713,509, or 7.3%, for the year ended June 30, 2015 compared to the prior year, primarily due to a net increase in orders from current and new customers. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Total revenue increased 3,416,968, or 12.0%, for the year ended June 30, 2015 compared to the prior year, for the reasons described above.

Cost of Revenue

	Years Ended June 30,		2015-2014	2015-2014	
	2015	2014	**$ Change**	**% Change**	
Cost of Revenue:					
Article Galaxy	$16,147,740	$14,168,628	$1,979,112	14.0	%
Reprints and ePrints	9,576,202	8,861,035	715,167	8.1	%
Total cost of revenue	$25,723,942	$23,029,663	$2,694,279	11.7	%

	Years Ended June 30,		
	2015	2014	**2015-2014 Change ***
As a percentage of revenue:			
Article Galaxy	75.5%	75.9%	(0.4)%
Reprints and ePrints	91.0%	90.3%	0.7%
Total	80.6%	80.9%	(0.3)%

* The difference between current and prior period cost of revenue as a percentage of revenue

Cost of revenue as a percentage of revenue from Article Galaxy decreased to 75.5%, for the year ended June 30, 2015 compared to 75.9%, for the prior year, primarily due to slightly reduced production expenses and decreased content acquisition costs.

Cost of revenue as a percentage of revenue from Reprints and ePrints increased to 91.0%, for the year ended June 30, 2015 compared to 90.3%, for the prior year, primarily due to increased content acquisition costs.

Total cost of revenue as a percentage of revenue decreased to 80.6%, for the year ended June 30, 2015 compared to 80.9%, for the prior year.

Gross Profit

	Years Ended June 30,		**2015-2014**	**2015-2014**
	2015	2014	**$ Change**	**% Change**
Gross Profit:				
Article Galaxy	$5,229,234	$4,504,887	$724,347	16.1 %
Reprints and ePrints	946,967	948,625	(1,658)	(0.2)%
Total gross profit	$6,176,201	$5,453,512	$722,689	13.3 %

	Years Ended June 30,		**2015-2014**
	2015	2014	**Change ***
As a percentage of revenue:			
Article Galaxy	24.5 %	24.1 %	0.4 %
Reprints and ePrints	9.0 %	9.7 %	(0.7)%
Total	19.4 %	19.1 %	0.3 %

* The difference between current and prior period gross profit as a percentage of revenue

Operating Expenses

	Years Ended June 30,		**2015-2014**	**2015-2014**
	2015	2014	**$ Change**	**% Change**
Operating Expenses:				

Selling, general and administrative	$5,563,040	$5,917,012	$(353,972)	(6.0	)%
Depreciation and amortization	174,819	219,934	(45,115)	(20.5	)%
Stock-based compensation expense	834,672	355,220	479,452	135.0	%
Foreign currency transaction loss	98,122	16,332	81,790	500.8	%
Total operating expenses	$6,670,653	$6,508,498	$162,155	2.5	%

Selling, General and Administrative

Selling, general and administrative expenses decreased $353,972 or 6.0%, for the year ended June 30, 2015 compared to the prior year, primarily due to a decrease in professional service fees.

Depreciation and Amortization

For the year ended June 30, 2015, depreciation and amortization expense was $174,819, compared to $219,934 for the prior year, a decrease of $45,115. The amounts recorded were split between depreciation of property and equipment, and amortization of a customer list that was fully amortized in November 2014.

Interest Expense

For the year ended June 30, 2015, interest expense was $18,056, compared to $13,817 for the prior year, an increase of $4,239.

Provision for Income Taxes

During the years ended June 30, 2015 and 2014, we recorded a provision for income taxes of $30,892 and $16,099, respectively. The increase in the provision was primarily due to an increase in Mexican income taxes.

Net Income (Loss)

	Year Ended June 30,		**2015-2014**	**2015-2014**
	2015	2014	**$ Change**	**% Change**
Net Income (Loss):				
Loss from continuing operations	$(542,185)	$(1,084,132)	$541,947	50.0 %
Income (loss) from discontinued operations	1,316,404	(782,286)	2,098,690	268.3 %
Total net loss	$774,219	$(1,866,418)	$2,640,637	141.5 %

Loss from continuing operations decreased $541,947 or 50.0%, for the year ended June 30, 2015 compared to the prior year, primarily due to increased gross profit as described above.

Total net loss decreased $2,640,637 or 141.5%, for the year ended June 30, 2015 compared to the prior year, primarily due to increased gross profit and a net gain of $1,316,404 from the deconsolidation of our former French subsidiary.

Liquidity and Capital Resources

	Nine Months Ended March 31,	
Consolidated Statements of Cash Flow Data:	2016	2015
Net cash provided by (used in) operating activities from continuing operations	$ 782,082	$ (119,128)
Net cash used in operating activities of discontinued operations	-	(34,503)
Net cash provided by (used in) operating activities	782,082	(153,631)
Net cash used in investing activities from continuing operations	(180,584)	(67,555)
Net cash used in investing activities of discontinued operations	-	(27,666)
Net cash used in investing activities	(180,584)	(95,221)
Net cash used in financing activities from continuing operations	(20,147)	(50,605)
Net cash used in financing activities of discontinued operations	-	(67,515)

Net cash used in financing activities	(20,147)	(118,120)
Effect of exchange rate changes	(11,539)	(144,659)
Net increase (decrease) in cash and cash equivalents	569,812	(511,631)
Cash and cash equivalents, beginning of period	1,354,158	1,884,667
Cash and cash equivalents, end of period	$ 1,923,970	$ 1,373,036

Liquidity

We believe that our current cash resources, our borrowing availability under our existing line of credit, and expected cash flow will be sufficient to sustain operations for the next twelve months. Since our inception, we have funded our operations primarily through private sales of equity securities and the exercise of warrants, which have provided aggregate net cash proceeds to date of approximately $11,188,000. As of March 31, 2016, we had working capital of $955,917 and stockholders' equity of $1,167,532. For the nine months ended March 31, 2016, we recorded a net loss of $444,869, cash provided by operating activities from continuing operations was $782,082. We may incur losses for an indeterminate period and may never sustain profitability. We may be unable to achieve and maintain profitability on a quarterly or annual basis. An extended period of losses and negative cash flow may prevent us from successfully operating and expanding our business.

As of March 31, 2016, we had cash and cash equivalents of $1,923,970, compared to $1,354,158 as of June 30, 2015, an increase of $569,812. This increase was primarily due to cash provided by operating activities from continuing operations.

Operating Activities

Net cash provided by operating activities from continuing operations was $782,082 for the nine months ended March 31, 2016 and resulted primarily from an increase in accounts payable and accrued expenses of $564,290 and an increase in deferred revenue of $542,400, partially offset by an increase in accounts receivable of $614,001.

Net cash used in operating activities from continuing operations was $119,128 for the nine months ended March 31, 2015 and resulted primarily from an increase in accounts receivable of $1,601,375, partially offset by an increase in accounts payable and accrued expenses of $1,454,383. Net cash used in operating activities of discontinued operations was $34,503 for the nine months ended March 31, 2015.

Investing Activities

Net cash used in investing activities from continuing operations was $180,584 for the nine months ended March 31, 2016 and resulted from the purchase of intangible assets and property and equipment.

Net cash used in investing activities from continuing operations was $95,221 for the nine months ended March 31, 2015 and resulted from the purchase of intangible assets and property and equipment.

Financing Activities

Net cash used in financing activities from continuing operations was $20,147 for the nine months ended March 31, 2016 and resulted from common stock repurchased.

Net cash used in financing activities from continuing operations was $50,605 for the nine months ended March 31, 2015 and resulted from common stock repurchased. Net cash used in financing activities from discontinued operations was $67,515 for the nine months ended March 31, 2015.

We entered into a Loan and Security Agreement with Silicon Valley Bank ("SVB") on July 23, 2010, which, as amended, provides for a revolving line of credit for the lesser of $4,000,000, or 80% of eligible accounts receivable. The line of credit matures on October 31, 2017, and is subject to certain financial and performance covenants with which we were in compliance as of March 31, 2016. Financial covenants include maintaining a ratio of quick assets to current liabilities of at least 0.8 to 1.0, and maintaining tangible net worth of $600,000, plus 50% of net income for the fiscal quarter ended from and after December 31, 2015, plus 50% of the dollar value of equity issuances after October 1, 2015 and the principal amount of subordinated debt. The line of credit bears interest at the prime rate plus 2.25% for periods in which we maintain an account balance with SVB (less all indebtedness owed to SVB) of at least $800,000 at all times during the prior calendar month (the "Streamline Period"), and at the prime rate plus 5.25% when a Streamline Period is not in effect. The interest rate on the line of credit was 5.75% as of March 31, 2016. The line of credit is secured by our consolidated assets.

There were no outstanding borrowings under the line as of March 31, 2016 and June 30, 2015, respectively. As of March 31, 2016 and June 30, 2015, approximately $3,172,000 and $2,182,000, respectively, of available credit was unused.

Non-GAAP Measure - Adjusted EBITDA

In addition to our GAAP results, we present Adjusted EBITDA as a supplemental measure of our performance. However, Adjusted EBITDA is not a recognized measurement under GAAP and should not be considered as an alternative to net income, income from operations or any other performance measure derived in accordance with GAAP or as an alternative to cash flow from operating activities as a measure of liquidity. We define Adjusted EBITDA as net income (loss), plus interest expense, other income (expense), foreign currency transaction loss, provision for income taxes, depreciation and amortization, stock-based compensation, income (loss) from discontinued operations, impairment of acquired intangibles and goodwill, loss on facility sublease, and (gain) loss on sale of fixed assets. Management considers our core operating performance to be that which our managers can affect in any particular period through their management of the resources that affect our underlying revenue and profit generating operations that period. Non-GAAP adjustments to our results prepared in accordance with GAAP are itemized below. You are encouraged to evaluate these adjustments and the reasons we consider them appropriate for supplemental analysis. In evaluating Adjusted EBITDA, you should be aware that in the future we may incur expenses that are the same as or similar to some of the adjustments in this presentation. Our presentation of Adjusted EBITDA should not be construed as an inference that our future results will be unaffected by unusual or non-recurring items.

Set forth below is a reconciliation of Adjusted EBITDA to net income (loss) for the three and nine months ended March 31, 2016 and 2015:

	Three Months Ended March 31,		Nine Months Ended March 31,	
	2016	2015	2016	2015
Net income (loss)	$ 32,376	$ (1,816)	$ (444,869)	$ 1,050,023
Add (deduct):				
Interest expense	6,389	3,875	14,382	11,666
Other (income) expense	25,639	(275)	18,229	(898)
Foreign currency transaction (gain) loss	(2,829)	57,647	4,293	94,118
Provision for income taxes	5,210	17,526	22,510	24,893
Depreciation and amortization	30,310	25,005	61,144	157,885
Stock-based compensation	130,568	106,521	551,698	328,038
(Income) loss from discontinued operations	-	-	-	(1,152,951)
Adjusted EBITDA	$ 227,663	$ 208,483	$ 227,387	$ 512,774

We present Adjusted EBITDA because we believe it assists investors and analysts in comparing our performance across reporting periods on a consistent basis by excluding items that we do not believe are indicative of our core operating performance. In addition, we use Adjusted EBITDA in developing our internal budgets, forecasts and strategic plan; in analyzing the effectiveness of our business strategies in evaluating potential acquisitions; and in making compensation decisions and in communications with our board of directors concerning our financial performance. Adjusted EBITDA has limitations as an analytical tool, which includes, among others, the following:

- Adjusted EBITDA does not reflect our cash expenditures, or future requirements, for capital expenditures or contractual commitments;
- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect interest expense, or the cash requirements necessary to service interest or principal payments, on our debts; and
- although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will often have to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for such replacements.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Recently Issued Accounting Pronouncements

For information about recently issued accounting standards, refer to Note 2 to our consolidated financial statements appearing elsewhere in this prospectus.

BUSINESS

Company Overview

Research Solutions is a publicly traded holding company with two wholly owned subsidiaries at June 30, 2015: Reprints Desk, Inc., a Delaware corporation, and Reprints Desk Latin America S. de R.L. de C.V, an entity organized under the laws of Mexico. Research Solutions was incorporated in the State of Nevada on November 2, 2006. On March 4, 2013, we amended our Articles of Incorporation to change our name to Research Solutions, Inc. (formerly Derycz Scientific, Inc.).

On August 18, 2014, our board of directors authorized the immediate disposal of our former subsidiary Techniques Appliquées aux Arts Graphiques, S.p.A., an entity organized under the laws of France, at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, we relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements.

We derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,711,748 recorded on the consolidated statements of operations for the year ended June 30, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. We have determined based on discussion with French counsel that it is remote that we will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, we have eliminated any respective liability as of June 30, 2015.

We provide on-demand access to scientific, technical, and medical information for life science companies, academic institutions, and other research-intensive organizations. We provide two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

Article Galaxy, our cloud-based software-as-a-service solution, provides our customers with a single source to the universe of published STM content that includes over seventy million existing STM articles and over one million newly published STM articles each year. Article Galaxy allows customers to find and download in digital format STM articles that are critical to their research. In addition, Article Galaxy facilitates customers' compliance with applicable copyright laws.

Researchers and regulatory personnel in life science and other research-intensive organizations generally require single copies of published STM journal articles for use in their research activities. They place orders with us for the articles they need and we source and electronically deliver the requested content to them generally in under an hour. This service is known in the industry as single article delivery or document delivery. We also obtain the necessary permissions from the content publisher so that our customer's use complies with applicable copyright laws. We have arrangements with numerous content publishers that allow us to distribute their content. The majority of these publishers provide us with electronic access to their content, which allows us to electronically deliver single articles to our customers often in a matter of minutes. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to the addition or loss of customers.

We deliver the aforementioned services through our Article Galaxy journal article platform ("Article Galaxy"), which consists of proprietary software and Internet-based interfaces that allow customers to initiate orders, manage transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and enhance the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around scientific information.

As a cloud-based SaaS solution, Article Galaxy is deployed as a single system across our entire customer base. Customers access Article Galaxy securely through online web interfaces and via web service APIs, which enable customers to leverage Article Galaxy features and functionality from within proprietary and other 3rd party software systems. Article Galaxy can also be configured to satisfy a customer's individual preferences in areas such as user experience, business processes, and spend management. As a SaaS solution, Article Galaxy benefits from efficiencies in scalability, stability and development costs, resulting in significant advantages versus multiple instance or installed desktop software alternatives. We leverage these technical efficiencies to fuel rapid innovation and competitive advantage.

Reprints and ePrints

Marketing departments in life science and other research-intensive organizations generally require large quantities of printed copies of published STM journal articles called "Reprints" that are distributed to physicians and at conferences. We obtain the necessary permissions from the content publisher so that our customer's use complies with applicable copyright laws. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. Electronic copies, called "ePrints", are also used for distribution through the Internet and other electronic mechanisms. We have developed proprietary ePrint software that increases the efficiency of our customers' content purchases by transitioning from paper Reprints to electronic ePrints, and by improving compliance with applicable copyright laws and promotional regulations within the life science industry. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Competitive Strengths

We believe that we possess the following competitive strengths:

Services and Technology

We have developed proprietary software and Internet-based interfaces that allow customers to initiate orders for accessing full-text research papers 24/7, manage these transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and maximize the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around STM information. Our systems integrate into our customers' corporate intranets and workflows through the Internet, web services and other integration mechanisms. Our services alleviate the need for our customers to develop internal

systems or contact multiple content publishers in order to obtain the content that is critical to their research.

Our services are configured to our customers' needs and provide a personalized yet turnkey solution that covers the full spectrum of customer requirements; from identifying and locating articles, to facilitating copyright compliance, maximizing information resources already owned, monitoring, tracking usage, and automating end-user authentication. We continue to seek ways to enhance the performance of our existing proprietary software and systems and to develop and implement new technologies that expand the available methods of discovering, obtaining and managing content.

Experienced Management Team

Our management team has extensive experience in satisfying customers across the information services and STM publishing and technology industries. Further, our CEO has been an innovator in the space for over 20 years.

Customer Loyalty

The majority of our revenue comes from repeat customers, indicative of our focus on customer satisfaction and quality. A recent study performed by Outsell, an industry research and advisory firm, ranked Reprints Desk first in customer satisfaction (depth and breadth of coverage, fair pricing, and ease of doing business) and loyalty (intention to renew or continue service, and willingness to recommend the service to others).

Industry Presence and Established Relationships

We have a well-established presence and a network of contacts with our customers, STM publishing partners, and others in the information services space. We have existing arrangements with numerous content publishers that allow us to distribute their content.

Promotion

We employ a segment-focus marketing approach to challenge existing competition. In pursuit of growth, we invest in vertical integration and channel relationships to increase the value we provide to customers, extend our promotional reach, and decrease customer acquisition costs. We anticipate growth coming from cross-selling into our existing customer base, penetrating new market verticals, and generating market demand and preference from both existing and new customers. While we place emphasis on the life science market, with a focus on pharmaceutical, biotechnology and medical device customers, we are also penetrating the following new markets: legal, academic, aerospace, automotive, semiconductor, electronics, chemicals and food and agriculture.

Growth Strategy

Organic Growth

We seek to grow our customer base through targeted selling and marketing campaigns consisting of sales calls on potential customers. This strategy is supported by innovative technological systems, competitive pricing and high quality service. We also submit proposals to potential customers in response to requests for proposals, or RFPs. We have invested heavily in our operations to ensure that they are capable of supporting future growth.

Acquisitions and Combinations

From time to time, and as opportunities arise, we may explore strategic acquisitions and combinations, including the acquisition of customer lists, that bring revenue, profitability, growth potential and additional technology, products, services, operations and/or geographic capabilities to our company.

International Expansion

We have expanded internationally through increased sales to companies located abroad, particularly in Europe and Japan. From time to time, and as opportunities arise, we may further expand internationally through partnerships or acquisitions.

Publisher Agreements

We have arrangements with numerous STM content publishers that allow us to distribute their content. In addition, we regularly contact publishers in an attempt to negotiate additional publisher agreements. A typical publisher agreement would allow us to distribute the publisher's content according to a negotiated price list, thereby eliminating the need to contact the publisher and obtain the rights for each individual order. Many of these publishers provide us with electronic access to their content, which allows us to further expedite the delivery of single articles to our customers. In addition, we rely on a small number of content publishers for the majority of our content costs.

Company Services

We generate revenue by providing two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

We charge a transactional service fee for the electronic delivery of single articles, and a corresponding copyright fee for the permitted use of the content. This service, known in the industry as single article delivery or document delivery, generates nearly all of the revenue attributable to the Article Galaxy journal article platform. We recognize revenue from single article delivery services upon delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Reprints and ePrints

We charge a transactional fee for each Reprint or ePrint order and are responsible for printing and delivery of Reprint orders, and the electronic delivery and, in some cases, the electronic delivery mechanism of ePrint orders. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. We recognize revenue from reprints and ePrints services upon shipment or electronic delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Customers and Suppliers

There were no customers that accounted for greater than 10% of our revenue for the years ended June 30, 2015 and 2014.

Approximately 38% and 45% of our content cost for the years ended June 30, 2015 and 2014, respectively, was derived from our three largest suppliers of content. Loss of any or all of these suppliers of content would significantly reduce our revenue, which would have a material adverse effect on our results of operations. We can provide no assurance that these suppliers of content will continue to supply us with content in the future.

Sales and Marketing

To acquire customers we rely on sales promotion to sell to large enterprise accounts, and marketing communications to more efficiently recruit small-to-medium and geographically-dispersed enterprises. The promotional mix of tactics we utilize includes: advertising, events, direct response and integrated marketing campaigns, public relations and content publicity, search engine optimization and marketing, thought leadership programs, channel alliances training, and analyst relations. In addition, a portion of our marketing budget is dedicated to research and customer retention, which, we believe, increases total lifetime value per account and generates significant amounts of referrals for new business.

Competition

The markets in which we compete are highly competitive. The primary methods of competition in our industry are price, service, technology and niche focus. Competition based on price is often successful in the short-term, but can limit the ability of a supplier to provide adequate service levels. Competition based on service and/or technology requires significant investment in systems and that investment requires time to produce results. Niche operators focus on narrow activities, but cannot aggregate sufficient content, technology and services to satisfy broad customer needs. We believe that many customers and potential customers are less price sensitive if the service levels are high and the technology creates efficiency and/or management information that has not been available previously.

Our competition includes:

- *Piracy* – perhaps, our most serious competitor. Many entities use content for commercial purposes without complying with applicable copyright laws, and paying the required copyright to the content publisher. As information becomes more readily available, the opportunity for piracy increases.

- *STM Single Article Delivery Vendors and Content Aggregators* – Our primary competitors for global, full service Single Article Delivery services are Copyright Clearance Center, British Library, numerous national libraries located outside of the United States, and regional interlibrary loan networks throughout the world.

- *Customer In-House Services* – While Single Article Delivery services are more challenging than Reprint services for our customers to provide in house, many existing and potential customers manage these services internally.

- *Publisher In-House Capabilities* – Some large publishers have developed in-house capabilities to service the content re-use market, however, many of them neglect other content repurposing opportunities and may not be able to aggregate content from other publishers

Corporate History and Structure

Research Solutions was incorporated in the State of Nevada on November 2, 2006, and in November 2006 entered into a Share Exchange Agreement with Reprints Desk. At the closing of the transaction contemplated by the Share Exchange Agreement, Research Solutions acquired all of the outstanding shares of Reprints Desk from its stockholders and issued 8,000,003 shares of common stock to the former stockholders of Reprints Desk. Following completion of the exchange transaction, Reprints Desk became a wholly-owned subsidiary of Research Solutions. Reprints Desk provides Article Galaxy and Reprint and ePrint services.

On July 24, 2012, we formed Reprints Desk Latin America to provide operational and administrative support services to Reprints Desk.

On March 4, 2013, we consummated a merger with DYSC Subsidiary Corporation, our wholly-owned subsidiary, pursuant to which we, in connection with such merger, amended our Articles of Incorporation to change our name to Research Solutions, Inc. (formerly Derycz Scientific, Inc.).

On February 28, 2007, we entered into an agreement with Pools Press, Inc., an Illinois corporation, pursuant to which we acquired 75% of the issued and outstanding common stock of Pools for consideration of $616,080. We purchased the remaining interest in Pools that we did not already own on August 31, 2010. The results of Pools' operations have been included in our consolidated financial statements since March 1, 2007. On January 1, 2012, Pools merged with and into Reprints Desk. Pools provided printing services, specializing in reprints, until operations were discontinued in June 2013.

On March 31, 2011, we entered into an agreement with Fimmotaag, S.p.A., a privately held company domiciled in France, pursuant to which we acquired 100% of the issued and outstanding common stock of TAAG in exchange for 336,921 shares of our common stock in addition to future payments payable at the option of Fimmotaag in cash or our common stock under the terms of the purchase agreement. On March 28, 2013, we entered into a Settlement Agreement with Fimmotaag and its two principal owners, pursuant to which Fimmotaag agreed to return 336,921 shares of our common stock to us and to forego future payments payable to Fimmotaag by us pursuant to the terms of the agreement under which we acquired TAAG from Fimmotaag.

On August 18, 2014, our board of directors authorized the immediate disposal of our former subsidiary TAAG at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, we relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements.

In accordance with consolidation guidance we derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,711,748 recorded on the consolidated statements of operations for the year ended June 30, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. We have determined based on discussion with French counsel that it is remote that we will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, we have eliminated any respective liability as of June 30, 2015.

Employees

As of June 30, 2016, we had 113 full time employees and 3 part-time employees.

Properties

Our executive offices are located at 5435 Balboa Blvd., Suite 202, Encino, California. We lease approximately 3,200 square feet of office space for approximately $5,400 per month from an unrelated third party. The lease expires on April 30, 2017.

Reprints Desk Latin America S. de R.L. de C.V, rents on a month to month basis approximately 280 square meters of office space in Monterrey, Mexico, for approximately $1,500 (19,482 Mexican Pesos) per month.

We believe that our existing facilities are sufficient to meet our present and anticipated needs for the foreseeable future.

Legal Proceedings

We are involved in legal proceedings in the ordinary course of our business. Although our management cannot predict the ultimate outcome of these legal proceedings with certainty, it believes that the ultimate resolution of our legal proceedings, including any amounts we may be required to pay, will not have a material effect on our consolidated financial statements.

On August 18, 2014, our board of directors authorized the immediate disposal of our former subsidiary TAAG at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, we relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements. In accordance with consolidation guidance we derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,711,748 recorded on the consolidated statements of operations for the year ended June 30, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. We have determined based on discussion with French counsel that it is remote that we will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, we have eliminated any respective liability as of June 30, 2015.

MANAGEMENT

Directors and Executive Officers

The following table sets forth the name, age, position and date of appointment of each of our directors and executive officers as of June 30, 2016. Each director serves until our next annual meeting or until his or her successor is duly elected and qualified. Each executive officer serves until the earlier of his or her death or resignation, or his or her successor is duly elected and qualified.

Name	**Age**	**Position**	**Date of Appointment**
Peter Victor Derycz	54	Chief Executive Officer, President and Director	January 6, 2006
Alan Louis Urban	47	Chief Financial Officer and Secretary	November 3, 2011
Scott Ahlberg	52	Chief Operating Officer	July 1, 2007
Janice Peterson	68	Chief Publisher Relations Officer and Director	July 1, 2006
Ian Palmer	41	Chief Sales and Marketing Officer	July 1, 2013
John Regazzi (1) (4)	68	Chairman of the Board	June 22, 2015
Chad J. Cooper (1) (3)	46	Director	March 31, 2016
Gen. Merrill McPeak (1) (2)	79	Director	November 5, 2010

(1) Member of Audit Committee, Compensation Committee and Nominating and Governance Committee.
(2) Chairman of the Compensation Committee.
(3) Chairman of the Audit Committee.
(4) Chairman of the Nominating and Governance Committee.

Peter Victor Derycz – Chief Executive Officer and President, Director

Mr. Derycz founded Reprints Desk and has served as its Chief Executive Officer and President since January 6, 2006. Mr. Derycz also served as Chairman of the Board from January 6, 2006 through August 19, 2015. Mr. Derycz was a founder of Infotrieve, Inc. in 1989 and served as its President from February 2003 until September 2003. He served as the Chief Executive Officer of Puerto Luperon, Ltd. (Bahamas), a real estate development company, from January 2004 until December 2005. He currently serves on the Internation Advisory Board of the San Jose State University School of Information, and served as a member of the board of directors of Insignia Systems, Inc. (NASDAQ:ISIG), a consumer products advertising company from 2006 to 2014. Mr. Derycz received a B.A. in Psychology from the University of California at Los Angeles. Our board of directors believes that Mr. Derycz' familiarity with our day-to-day operations, his strategic vision for our business and his past leadership and management experience make him uniquely qualified to serve as a director.

Alan Louis Urban – Chief Financial Officer and Secretary

Mr. Urban joined Research Solutions in 2011 and has over 20 years of experience in corporate finance and accounting. Mr. Urban has previously served in numerous senior management positions, including: Vice President of Finance and Treasurer for Infotrieve from 2000 to 2004; Chief Financial Officer of a leading online poker company from 2005 to 2006; and Chief Financial Officer of ReachLocal (NASDAQ:RLOC) from 2007 to 2009, an internet marketing company that ranked #1 on Deloitte's Tech Fast 500 List. Mr. Urban has also held positions as an audit and tax manager in public accounting, and as an internal auditor. He holds a B.S. in Business, with a concentration in Accounting Theory and Practice, from California State University, Northridge and has been a Certified Public Accountant (currently inactive) since 1998.

Scott Ahlberg – Chief Operating Officer

Mr. Ahlberg has effectively served as the Chief Operating Officer since July 1, 2007, and has many years of experience in content and startup businesses. Mr. Ahlberg started with Dynamic Information (EbscoDoc) in the 1980s, then went on to lead Sales and Marketing at Infotrieve, Inc. After leaving Infotrieve in 2005 Mr. Ahlberg provided consulting services to ventures in professional networking and medical podcasting. He joined Reprints Desk in 2006. His areas of expertise include strategic planning, operational innovation, copyright and content licensing, and quality management. Mr. Ahlberg has degrees from Stanford University (B.A., 1984) and the University of London (M.A., 1990).

Janice Peterson –Chief Publisher Relations Officer, Director

Ms. Peterson has served as the Chief Publisher Relations Officer and as a Director since July 1, 2006. She was Vice President for Content Development at Infotrieve, Inc. from 2000 to 2006 and Vice President for Publisher Relations and Content Development at RoweCom, formerly Faxon/Dawson, from 1997 to 2000. Ms. Peterson was at Academic Press (now Elsevier) for 14 years, where her last position was Fulfillment Director. Ms. Peterson is Past Chair of the board of directors for the National Information Standards Organization (NISO), and she is the past chair of the International Committee for EDI in Serials (ICEDIS). She has a degree in History from Whittier College and an M.A. in Asian Studies from California State College, San Diego. She joined Reprints Desk in 2006. Our board of directors believes that Ms. Peterson should serve as a director due to her extensive industry-specific knowledge and business experience, including a familiarity with our day-to-day operations.

Ian Palmer –Chief Sales and Marketing Officer

Mr. Palmer joined Research Solutions in 2008 and has served as our Chief Sales and Marketing Officer since July 1, 2013. He drives our growth through customer retention and acquisition. He has two decades of sales, marketing and communications experience in industries such as online information, high tech and business services. Most recently, Mr. Palmer was responsible for managing enterprise marketing at Safari Books Online, a joint venture of publishers O'Reilly Media, Inc., and Pearson Technology Group, a division of Pearson Education. Previously, Mr. Palmer held senior-level positions at Infotrieve, Inc., Hydra Worldwide Corporation, Singular Publishing Group, Inc., and Impinj, Inc., a previous winner of the Red Herring Top 100 Private Companies of North America Award. Mr. Palmer is from the Pacific Northwest and earned a Bachelor's Degree in Communications from the University of Washington.

John Regazzi – Chairman of the Board

Mr. Regazzi was appointed to our board of directors on June 22, 2015 and was appointed Chairman of the Board effective August 20, 2015. Mr. Regazzi is an information services and IT industry innovator, with more than four decades of experience. He is currently managing director of Akoya Capital Partners, a sector-focused private investment firm, where for the last few years he has served as its professional information services sector leader. He has also been a professor at the Long Island University's College of Education, Information and Technology since 2005, and has served as dean of LIU's College of Information and Computer Science. Before joining Akoya Capital Partners, Mr. Regazzi served for several years as CEO of Elsevier Inc. and managing director of the NYSE-listed Reed Elsevier, the world's largest publisher and information services company for journal and related scientific, technical and medical content. At Reed Elsevier, he oversaw its expansive electronic publishing portfolio, with a program staff of 3,000 and revenues exceeding $1 billion. He was previously CEO of Engineering Information, which he helped turnaround before being acquired by Reed Elsevier. As a recognized industry thought leader, Mr. Regazzi has designed, launched, and managed some of the most innovative and well-known information services in the professional communities, including the Engineering Village, Science Direct, Scirus and Scopus, as well as numerous other electronic information services dating back to the early days of the online and CD-ROM industries. Mr. Regazzi has served on a variety of corporate and industry boards, including the British Standards Institute Group and the American Institute of Physics, and he recently was appointed and serves as chairman of the board of National Technical Information Service, a division of the U.S. Department of Commerce. He currently serves as chairman of LawLogix Group and Inflexxion, both Akoya portfolio companies. Mr. Regazzi earned his B.S. from St. Johns University, M.A. from University of Iowa, M.S. from Columbia University, and Ph.D. in Information Science from Rutgers University. Our board of directors concluded that Mr. Regazzi should serve as a director in light of his extensive experience in the information services industry.

General Merrill McPeak – Director

Gen. McPeak was appointed to our Board of directors on November 5, 2010. He is President of McPeak and Associates, a company he founded in 1995. From 1990 until his retirement from active military service in late-1994, he was chief of staff of the U.S. Air Force. During this period, he was the senior officer responsible for organization, training and equipage of a combined active duty, National Guard, Reserve and civilian work force of over 850,000 people serving at 1,300 locations in the United States and abroad. As a member of the Joint Chiefs of Staff, he and the other service chiefs were military advisors to the Secretary of Defense and the President. Gen. McPeak has served on the board of directors of several publicly traded companies, including long service with Trans World Airlines, Inc. and with the test and measurement company, Tektronix, Inc. He was for many years Chairman of the Board of ECC International Corp., until that company was acquired by Cubic Corporation. Currently, Gen. McPeak is a director of Aerojet Rocketdyne (NYSE: AJRD), Del Global Holdings (OTC: DGTC.OB), Lilis Energy (NASDAQ: LLEX) and Lion Biotechnologies, Inc. (NASDAQ: LBIO). He is a director of Valence Surface Technologies, the country's largest privately held provider of metal processing and finishing services. General McPeak was a founding investor, director and chairman of Ethicspoint, Inc., a software-as-a-service provider of secure, confidential employee reporting systems, that was acquired by private equity at a return making it one of Oregon's most successful business startups in decades. Our board of directors concluded that Gen. McPeak should serve as a director in light of his demonstrated leadership abilities and years of experience serving on the boards of directors of numerous publicly traded corporations.

Chad J. Cooper – Director

Mr. Cooper is a Managing Director at Wunderlich Securities, Inc. He has more than 15 years' experience in the investment banking and capital markets industry. From 2002-2011, Mr. Cooper worked at Roth Capital Partners, where he ultimately became a Partner and the Director of Institutional Sales. Mr. Cooper also manages DO Capital Management, a family office that actively invests personal assets in micro-cap and small-cap companies. Mr. Cooper currently sits on the board of directors of ARI Network Services, Inc., (NASDAQ:ARIS), YouMail, Inc., and Wings for Crossover, a 501(c)3 non-profit organization. Mr. Cooper has a B.A. in International Relations from the University of Southern California, and an M.B.A. from Georgetown University. In light of Mr. Cooper's financial and executive experience, including his experience having served as a director and audit committee member of several public companies, our board of directors believes it to be in the Company's best interests that Mr. Cooper serve as a director.

Director Independence

Our board of directors currently consists of five members: Messrs. Regazzi (Chairman), Cooper, Derycz and McPeak and Ms. Peterson. Each director serves until our next annual meeting or until his or her successor is duly elected and qualified. Our board of directors has determined that Mr. Regazzi, Mr. Cooper and Gen. McPeak are independent

directors as that term is defined in the applicable rules for companies traded on The NASDAQ Capital Market. Mr. Regazzi, Mr. Cooper and Gen. McPeak are each members of the Audit Committee, Compensation Committee and Nominating and Governance Committee of our board of directors.

Code of Ethics

Our board of directors has adopted a Code of Ethical Conduct that applies to all of our employees, officers and directors, including our Chief Executive Officer, Chief Financial Officer and other executive and senior financial officers. The code is available in the Corporate Governance – Code of Ethical Conduct section of our website, www.researchsolutions.com.

Further Information Concerning our board of directors

Our board of directors currently has the following standing committees: Audit Committee, Compensation Committee and Nominating and Governance Committee.

Audit Committee

Our Audit Committee currently consists of Messrs. Cooper (Chairman), McPeak and Regazzi. Our board of directors has determined that Mr. Cooper is an audit committee financial expert, as defined in Item 407(d)(5) of Regulation S-K, and that each member of our Audit Committee is able to read and understand fundamental financial statements and has substantial business experience that results in such member's financial sophistication. Accordingly, our board of directors believes that each member of our Audit Committee has sufficient knowledge and experience necessary to fulfill such member's duties and obligations on our Audit Committee. The primary purposes of our Audit Committee are to assist our board of directors in fulfilling its responsibility to oversee the accounting and financial reporting processes of our company and audits of our financial statements, including (i) reviewing the scope of the audit and all non-audit services to be performed by our independent accountant and the fees incurred by us in connection therewith, (ii) reviewing the results of such audit, including the independent accountant's opinion and letter of comment to management and management's response thereto, (iii) reviewing with our independent accountants our internal accounting principles, policies and practices and financial reporting, (iv) engaging our independent accountants and (v) reviewing our quarterly and annual financial statements prior to public issuance. The role and responsibilities of our Audit Committee are more fully set forth in a revised written Charter adopted by our board of directors on September 18, 2015, which is available on our website located at www.researchsolutions.com.

Compensation Committee

Our Compensation Committee currently consists of Messrs. McPeak (Chairman), Cooper and Regazzi. The primary purposes of our Compensation Committee are to assist our board of directors in fulfilling its responsibility to determine the compensation of our executive officers and to approve and evaluate the compensation policies and programs of our company, including (i) reviewing the compensation packages of executive officers and making recommendations to our board of directors for said compensation packages, (ii) reviewing and approving proposed stock incentive grants and (iii) providing our board of directors with recommendations regarding bonus plans, if any. The role and responsibilities of our Compensation Committee are more fully set forth in a revised written Charter adopted by our board of directors on September 18, 2015, which is available on our website located at www.researchsolutions.com.

The policies underlying our Compensation Committee's compensation decisions are designed to attract and retain the best-qualified management personnel available. We routinely compensate our executive officers through salaries. At our discretion, we may reward executive officers and employees through bonus programs based on profitability and other objectively measurable performance factors. Additionally, we use stock options and other incentive awards to compensate our executives and other key employees to align the interests of our executive officers with the interests of our stockholders. In establishing executive compensation, our Compensation Committee evaluates compensation paid to similar officers employed at other companies of similar size in the same industry and the individual performance of each officer as it impacts our overall performance with particular focus on an individual's contribution to the realization of operating profits and the achievement of strategic business goals. Our Compensation Committee

further attempts to rationalize a particular executive's compensation with that of other executive officers of our company in an effort to distribute compensation fairly among the executive officers. Although the components of executive compensation (salary, bonus and incentive grants) are reviewed separately, compensation decisions are made based on a review of total compensation.

Nominating and Governance Committee

Our Nominating and Governance Committee currently consists of Messrs. Regazzi (Chairman), Cooper and McPeak. The primary purposes of our Nominating and Governance Committee are to (i) identify individuals qualified to become members of our board of directors and recommend to our board of directors the nominees for the next annual meeting of our stockholders and candidates to fill vacancies on our board of directors, (ii) recommend to our board of directors the directors to be appointed to committees of our board of directors and (iii) oversee the effectiveness of our corporate governance in accordance with regulatory guidelines and any other guidelines we establish, including evaluations of members of executive management, our board of directors and its committees. The role and responsibilities of our Nominating and Governance Committee are more fully set forth in a revised written Charter adopted by our board of directors on October 15, 2012, which is available on our website located at www.researchsolutions.com.

Our Nominating and Governance Committee's methods for identifying candidates for election to our board of directors (other than those proposed by our stockholders, as discussed below) include the solicitation of ideas for possible candidates from a number of sources - members of our board of directors; our executives; individuals personally known to the members of our board of directors; and other research. Our Nominating and Governance Committee may also, from time-to-time, retain one or more third-party search firms to identify suitable candidates.

A stockholder of our company may nominate one or more persons for election as a director at an annual meeting of stockholders if the stockholder complies with the notice, information and consent provisions contained in our Amended and Restated Bylaws. In addition, the notice must be made in writing and set forth as to each proposed nominee who is not an incumbent Director (i) their name, age, business address and, if known, residence address, (ii) their principal occupation or employment, (iii) the number of shares of stock of our company beneficially owned, (iv) a description of all arrangements or understandings between the stockholder and each nominee and any other person pursuant to which the nominations are to be made and (v) any other information concerning the nominee that must be disclosed respecting nominees in proxy solicitations pursuant to Rule 14(a) of the Exchange Act of 1934, as amended. The recommendation should be addressed to our Secretary.

Among other matters, our Nominating and Governance Committee:

- Reviews the desired experience, mix of skills and other qualities to assure appropriate board of directors composition, taking into account the current members of our board of directors and the specific needs of our company and our board of directors;
- Conducts candidate searches, interviews prospective candidates and conducts programs to introduce candidates to our management and operations, and confirms the appropriate level of interest of such candidates;
- Recommends qualified candidates who bring the background, knowledge, experience, independence, skill sets and expertise that would strengthen and increase the diversity of our board of directors; and
- Conducts appropriate inquiries into the background and qualifications of potential nominees.

Board Leadership Structure and Role in Risk Oversight

Mr. Regazzi serves as our Chairman of the Board and Mr. Derycz serves as our Chief Executive Officer. We believe that separating the role of Chairman of the Board and Chief Executive Officer enhances our corporate governance practices and better enables management and our board of directors to focus on growth to maximize stockholder value. Our board of directors plays an active role, as a whole and also at the committee level, in overseeing management of our risks and strategic direction. Our board of directors regularly reviews information regarding our liquidity and operations, as well as the risks associated with each. Our Compensation Committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements. Our Audit Committee oversees the process by which our senior management and relevant employees assess and manage our exposure to, and management of, financial risks. Our Nominating and Governance Committee also manages risks associated with the independence of members of our board of directors and potential conflicts of interest. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, the entire board of

directors is regularly informed about such risks.

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table sets forth, as to our Chief Executive Officer and as to each of our other two most highly compensated executive officers whose compensation exceeded $100,000 during the last fiscal year, information concerning all compensation paid for services to us in all capacities for our last two fiscal years.

Name and principle Position	Fiscal Year	**Salary ($)**	**Bonus ($)**	**Stock awards ($)**		**Option awards ($)**	**All other compensation ($)**	**Total ($)**
Peter Victor Derycz	2015	276,000	120,000	118,159	(1)	-	13,114	527,273
Chief Executive Officer and President	2014	276,000	60,000	78,004	(2)	-	12,074	426,078
Alan Louis Urban	2015	201,250	90,000	88,615	(3)	-	11,437	391,302
Chief Financial Officer and Secretary	2014	201,250	45,000	60,002	(4)	-	10,137	316,389
Scott Ahlberg	2015	178,200	90,000	88,615	(3)	-	12,238	369,053
Chief Operating Officer, Reprints Desk	2014	178,200	45,000	61,503	(5)	-	10,182	294,885

(1) Represents the grant date fair value of 57,000 shares of restricted stock granted on August 18, 2014, 22,860 shares of restricted stock granted on November 7, 2014, 33,333 shares of restricted stock granted on March 10, 2015, and 24,835 shares of restricted stock granted on May 22, 2015. The grant date fair value was estimated using the market price of our common stock at the date of grant. The restricted stock vests over a three-year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(2) Represents the grant date fair value of 33,333 shares of restricted stock granted on September 6, 2013, 2,540 shares of restricted stock granted on November 22, 2013, 2,051 shares of restricted stock granted on January 28, 2014, and 7,843 shares of restricted stock granted on May 19, 2014. The grant date fair value was estimated using the market price of our common stock at the date of grant. The restricted stock vests over a three-year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(3) Represents the grant date fair value of 42,750 shares of restricted stock granted on August 18, 2014, 17,140 shares of restricted stock granted on November 7, 2014, 25,000 shares of restricted stock granted on March 10, 2015, and 18,625 shares of restricted stock granted on May 22, 2015. The grant date fair value was estimated using the

market price of our common stock at the date of grant. The restricted stock vests over a three-year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(4) Represents the grant date fair value of 25,833 shares of restricted stock granted on September 6, 2013, 1,905 shares of restricted stock granted on November 22, 2013, 1,538 shares of restricted stock granted on January 28, 2014, and 5,882 shares of restricted stock granted on May 19, 2014. The grant date fair value was estimated using the market price of our common stock at the date of grant. The restricted stock vests over a three-year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(5) Represents the grant date fair value of 26,667 shares of restricted stock granted on September 6, 2013, 1,905 shares of restricted stock granted on November 22, 2013, 1,538 shares of restricted stock granted on January 28, 2014, and 5,882 shares of restricted stock granted on May 19, 2014. The grant date fair value was estimated using the market price of our common stock at the date of grant. The restricted stock vests over a three-year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

Employment Agreements

Peter Victor Derycz

On July 1, 2010, we entered into an executive employment agreement with Mr. Derycz which was subsequently amended on June 30, 2015. Under the terms of the executive employment agreement, Mr. Derycz has agreed to serve as our Chief Executive Officer and President on an at-will basis. The term of the agreement ends on June 30, 2017. The agreement provides for a base salary of $317,400 per year. No part of Mr. Derycz’s salary is allocated to his duties as a director of our company.

The agreement contains provisions that prohibit Mr. Derycz from soliciting our customers or employees during his employment with us and for one year afterward. The agreement also contains provisions that restrict disclosure by Mr. Derycz of our confidential information and assign ownership to us of inventions related to our business that are created by him during his employment. We may terminate the agreement at any time, with or without cause. Mr. Derycz will be eligible to receive an amount equal to three (3) months of his then-current base salary payable in the form of salary continuation if he is terminated without cause. Mr. Derycz may terminate the agreement at any time, with or without reason, upon four weeks' advance written notice.

Alan Louis Urban

On November 3, 2011, we entered into an executive employment agreement with Mr. Urban which was subsequently amended on June 30, 2015. Under the terms of the executive employment agreement, Mr. Urban has agreed to serve as our Chief Financial Officer on an at-will basis. The term of the agreement ends on June 30, 2017. The agreement provides for a base salary of $231,440 per year.

The agreement contains provisions that prohibit Mr. Urban from soliciting our customers or employees during his employment with us and for one year afterward. The agreement also contains provisions that restrict disclosure by Mr. Urban of our confidential information and assign ownership to us of inventions related to our business that are created by him during his employment. We may terminate the agreement at any time, with or without cause. Mr. Urban will be eligible to receive an amount equal to three (3) months of his then-current base salary payable in the form of salary continuation if he is terminated without cause. Mr. Urban may terminate the agreement at any time, with or without reason, upon four weeks' advance written notice.

Scott Ahlberg

On July 1, 2010, we entered into an executive employment agreement with Mr. Ahlberg which was subsequently amended on June 30, 2015. Under the terms of the executive employment agreement, Mr. Ahlberg has agreed to serve as Chief Operating Officer of Reprints Desk on an at-will basis. The term of the agreement ends on June 30, 2017. The agreement provides for a base salary of $204,930 per year.

The agreement contains provisions that prohibit Mr. Ahlberg from soliciting our customers or employees during his employment with us and for one year afterward. The agreement also contains provisions that restrict disclosure by Mr. Ahlberg of our confidential information and assign ownership to us of inventions related to our business that are created by him during his employment. We may terminate the agreement at any time, with or without cause. Mr. Ahlberg will be eligible to receive an amount equal to three (3) months of his then-current base salary payable in the

form of salary continuation if he is terminated without cause. Mr. Ahlberg may terminate the agreement at any time, with or without reason, upon four weeks' advance written notice.

Janice Peterson

On July 1, 2010, we entered into an executive employment agreement with Ms. Peterson which was subsequently amended on June 30, 2015. Under the terms of the executive employment agreement, Ms. Peterson has agreed to serve as Chief Publisher Relations Officer of Reprints Desk on an at-will basis. The term of the agreement ends on June 30, 2017. The agreement provides for a base salary of $188,080 per year. No part of Ms. Peterson's salary is allocated to her duties as a director of our company.

The agreement contains provisions that prohibit Ms. Peterson from soliciting our customers or employees during her employment with us and for one year afterward. The agreement also contains provisions that restrict disclosure by Ms. Peterson of our confidential information and assign ownership to us of inventions related to our business that are created by her during her employment. We may terminate the agreement at any time, with or without cause. Ms. Peterson will be eligible to receive an amount equal to three (3) months of her then-current base salary payable in the form of salary continuation if she is terminated without cause. Ms. Peterson may terminate the agreement at any time, with or without reason, upon four weeks' advance written notice.

Outstanding Equity Awards at Fiscal Year End

The following table presents information regarding outstanding options held by our named executive officers as of the end of our fiscal year ended June 30, 2015.

Name	**Number of securities underlying unexercised options exercisable (#)**	**Number of securities underlying unexercised options unexercisable (#)**	**Option exercise price ($)**	**Option expiration date (4)**	**Stock Awards: Number of shares of stock that have not vested (#)**	**Stock Awards: Market value of shares of stock that have not vested ($)**
Peter Victor Derycz	26,667	5,333 (1)	$ 1.25	2/13/2023	-	-
	12,000	4,000 (2)	$ 1.85	5/20/2023	-	-
	-	-	-	-	11,111 (7)	$ 20,000 (8)
	-	-	-	-	1,058 (9)	$ 2,085 (10)
	-	-	-	-	1,026 (11)	$ 1,795 (12)
	-	-	-	-	4,575 (13)	$ 5,490 (14)
	-	-	-	-	57,000 (15)	$ 43,890 (16)
	-	-	-	-	22,860 (17)	$ 14,859 (18)
	-	-	-	-	33,333 (19)	$ 33,333 (20)
	-	-	-	-	24,835 (21)	$ 26,077 (22)
Alan Louis Urban	100,000	-	$ 1.02	7/27/2020	-	-
	125,000	-	$ 1.30	3/5/2022	-	-
	20,000	4,000 (3)	$ 1.15	2/6/2023	-	-
	-	-	-	-	1,818 (5)	$ 3,364 (6)
	-	-	-	-	8,611 (7)	$ 15,500 (8)
	-	-	-	-	794 (9)	$ 1,564 (10)
	-	-	-	-	769 (11)	$ 1,346 (12)
	-	-	-	-	3,431 (13)	$ 4,117 (14)
	-	-	-	-	42,750 (15)	$ 32,198 (16)
	-	-	-	-	17,140 (17)	$ 11,141 (18)
	-	-	-	-	25,000 (19)	$ 25,000 (20)
	-	-	-	-	18,625 (21)	$ 19,556 (22)
Scott Ahlberg	75,000	-	$ 1.50	12/21/2017	-	-
	75,000	-	$ 1.00	5/28/2019	-	-
	20,000	-	$ 1.02	7/27/2020	-	-

21,333	4,267	(3) $ 1.15	2/6/2023	-		-	
-	-	-	-	1,940	(5)	$ 3,588	(6)
-	-	-	-	8,889	(7)	$ 16,000	(8)
-	-	-	-	794	(9)	$ 1,564	(10)
-	-	-	-	769	(11)	$ 1,346	(12)
-	-	-	-	3,431	(13)	$ 4,117	(14)
-	-	-	-	42,750	(15)	$ 32,198	(16)
-	-	-	-	17,140	(17)	$ 11,141	(18)
-	-	-	-	25,000	(19)	$ 25,000	(20)
-	-	-	-	18,625	(21)	$ 19,556	(22)

(1) The stock options were granted on February 13, 2013 and vest over a three year period, with a one year cliff vesting period.

(2) The stock options were granted on May 20, 2013 and vest over a three year period, with a one year cliff vesting period.

(3) The stock options were granted on February 6, 2013 and vest over a three year period, with a one year cliff vesting period.

(4) Stock options expire ten years from the grant date.

(5) The restricted stock was granted on May 20, 2013 and vest over a three year period, with a one year cliff vesting period.

(6) Based on a market closing price per share of common stock of $1.85 on May 20, 2013.

(7) The restricted stock was granted on September 6, 2013 and vest over a three year period, with a one year cliff vesting period.

(8) Based on a market closing price per share of common stock of $1.80 on September 6, 2013.

(9) The restricted stock was granted on November 22, 2013 and vest over a three year period, with a one year cliff vesting period.

(10) Based on a market closing price per share of common stock of $1.97 on November 22, 2013.

(11) The restricted stock was granted on January 28, 2014 and vest over a three year period, with a one year cliff vesting period.

(12) Based on a market closing price per share of common stock of $1.75 on January 28, 2014.

(13) The restricted stock was granted on May 19, 2014 and vest over a three year period, with a one year cliff vesting period.

(14) Based on a market closing price per share of common stock of $1.20 on May 19, 2014.

(15) The restricted stock was granted on August 18, 2014 and vest over a three year period, with a one year cliff vesting period.

(16) Based on a market closing price per share of common stock of $0.77 on August 18, 2014.

(17) The restricted stock was granted on November 7, 2014 and vest over a three year period, with a one year cliff vesting period.

(18) Based on a market closing price per share of common stock of $0.65 on November 7, 2014.

(19) The restricted stock was granted on March 10, 2015 and vest over a three year period, with a one year cliff vesting period.

(20) Based on a market closing price per share of common stock of $1.00 on March 10, 2015.

(21) The restricted stock was granted on May 22, 2015 and vest over a three year period, with a one year cliff vesting period.

(22) Based on a market closing price per share of common stock of $1.05 on May 22, 2015.

Director Compensation

The following table presents information regarding compensation paid to our non-employee directors for our fiscal year ended June 30, 2015.

Name	Fiscal Year	**Fees earned or paid in cash ($)**	**Stock awards ($)**	**Warrant and Option Awards ($)**	**All other Compensation ($)**		Total ($)
(a)		(b)	(c)	(d)	(g)		(h)
Paul Kessler	2015	10,500	-	45,000	-		55,500
	2014	-	-	-	-		-
Gen. Merrill McPeak	2015	12,000	-	73,500	17,877	(1)	103,377
	2014	12,000	-	-	-		12,000
Scott Ogilvie	2015	12,000	26,250	73,500	17,877	(1)	129,627

	2014	12,000	-	-	-		12,000
Janice Peterson	2015	-	-	-	351,851	(2)	351,851
	2014	-	-	-	230,850	(3)	230,850
John Regazzi	2015	300	-	18,000	-		18,300
	2014	-	-	-	-		-
Gregory Suess	2015	12,000	26,250	73,500	17,877	(1)	129,627
	2014	12,000	-	-	-		12,000

(1) On May 22, 2015, warrants originally issued on November 5, 2010 to purchase 50,000 shares of the Company's common stock were modified to extend the term from five years to ten years.

(2) Ms. Peterson received no compensation for her services as a director of the Company. Other compensation represents the following amounts paid to Ms. Peterson for her services as an employee of the Company: salary in the amount of $174,960, bonus in the amount of $90,000, grant date fair value of restricted stock of $83,225 (represents the grant date fair value of 35,750 shares of restricted stock granted on August 18, 2014, 17,140 shares of restricted stock granted on November 7, 2014, 25,000 shares of restricted stock granted on March 10, 2015, and 18,625 shares of restricted stock granted on May 22, 2015). The grant date fair value was estimated using the market price of the Company's common stock at the date of grant. The restricted stock vests over a three year period, with a one year cliff vesting period, and remain subject to forfeiture if vesting conditions are not met, and other compensation in the amount of $3,666.

(3) Ms. Peterson received no compensation for her services as a director of the Company. Other compensation represents the following amounts paid to Ms. Peterson for her services as an employee of the Company: salary in the amount of $145,800, bonus in the amount of $37,500, grant date fair value of restricted stock of $44,252 (represents the grant date fair value of 18,333 shares of restricted stock granted on September 6, 2013, 1,587 shares of restricted stock granted on November 22, 2013, 1,282 shares of restricted stock granted on January 28, 2014, and 4,902 shares of restricted stock granted on May 19, 2014). The grant date fair value was estimated using the market price of the Company's common stock at the date of grant. The restricted stock vests over a three year period, with a one year cliff vesting period, and remain subject to forfeiture if vesting conditions are not met, and other compensation in the amount of $3,298.

In fiscal 2015, non-employee directors of our company received $12,000 and options to purchase 75,000 shares of our common stock for attending meetings and serving on our board of directors. In fiscal 2014, non-employee directors of our company received $12,000 and options to purchase 50,000 shares of our common stock for attending meetings and serving on our board of directors. We expect to compensate our non-employee directors with a combination of cash and options to purchase our common stock going forward. Compensation payable to non-employee directors may be adjusted from time to time, as approved by our board of directors.

Equity Compensation Plan Information

In December 2007, we established the 2007 Equity Compensation Plan (the "Plan"). The Plan was approved by our board of directors and stockholders. The purpose of the Plan is to grant stock and options to purchase our common stock to our employees, directors and key consultants. On November 21, 2014, the maximum number of shares of common stock that may be issued pursuant to awards granted under the Plan increased from 3,000,000 to 5,000,000, as approved by our board of directors and stockholders. Cancelled and forfeited stock options and stock awards may again become available for grant under the Plan. There were 843,787 shares available for grant under the Plan as of June 30, 2016. All stock option grants are made under Plan. The following table provides information as of June 30, 2016 with respect to the Plan, which is the only compensation plan under which our equity securities are authorized for issuance.

Plan Category	**Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)**	**Weighted-average exercise price of outstanding options, warrants and rights[1] (b)**	**Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in**

				column (a)) (c)
Equity compensation plans approved by security holders (2007 Equity Compensation Plan)	4,070,880	(2)	$ 1.16	843,787
Equity compensation plans not approved by security holders (Warrants)	205,000		$ 1.28	—
Total	4,361,213			843,787

(1) The weighted average exercise price excludes restricted stock awards, which have no exercise price.

(2) Includes 1,303,687 shares of restricted stock awarded to employees.

Equity Compensation Plan and Employee Benefits

Summary of the 2007 Equity Compensation Plan

The following summary briefly describes the principal features of the 2007 Plan, and is qualified in its entirety by reference to the full text of the 2007 Plan.

Administration. The 2007 Plan is administered by our Compensation Committee, or if no such committee is formed, our board of directors. Our Compensation Committee has the authority to select the eligible participants to whom awards will be granted, to determine the types of awards and the number of shares covered and to set the terms, conditions and provisions of such awards, to cancel or suspend awards under certain conditions, and to accelerate the exercisability of awards. Our Compensation Committee is authorized to interpret the 2007 Plan, to establish, amend, and rescind any rules and regulations relating to the 2007 Plan, to determine the terms of agreements entered into with recipients under the 2007 Plan, and to make all other determinations that may be necessary or advisable for the administration of the 2007 Plan.

Eligibility. All employees, directors and individuals providing services to our company or its subsidiaries are eligible to participate in the 2007 Plan.

Shares Subject to Plan. Subject to adjustment as described herein, as of June 30, 2016 the number of shares of common stock that would be available for grant of awards under the 2007 Plan is 5,000,000, less 4,156,214 shares of common stock that already have been issued or that are underlying outstanding awards. There are no additional shares of common stock that have been reserved for issuance pursuant to outstanding awards under the 2007 Plan. As of June 30, 2016, stock option awards with 2,717,193 underlying shares of common stock were outstanding under the 2007 Plan.

Stock Option and SAR Grants. The exercise price per share of common stock purchasable under any stock option or stock appreciation right (SAR) will be determined by our Compensation Committee, but cannot in any event be less than 100% of the fair market value of our common stock on the date the option is granted. Our Compensation Committee will determine the term of each stock option or SAR (subject to a maximum of 10 years) and each stock option or SAR will be exercisable pursuant to a vesting schedule determined by our Compensation Committee. The grants and the terms of incentive stock options, or ISOs, shall be restricted to the extent required for qualification as ISOs by the Internal Revenue Code, or the Code. Subject to approval of our Compensation Committee, stock options or SARs may be exercised by payment of the exercise price in cash, shares of our common stock, which have been held for at least six months, or pursuant to a “cashless exercise” through a broker-dealer under an arrangement approved

by us. We may require the grantee to pay to us any applicable withholding taxes that we are required to withhold with respect to the grant or exercise of any award. The withholding tax may be paid in cash or, subject to applicable law, our Compensation Committee may permit the grantee to satisfy such obligations by the withholding or delivery of shares of our common stock. We may withhold from any shares of our common stock issuable pursuant to a stock option or SAR or from any cash amounts otherwise due from us to the recipient of the award an amount equal to such taxes.

Stock Grants. Shares may be sold or awarded for consideration and with our without restriction as determined by the Compensation Committee, including cash, full-recourse promissory notes, as well as past and future services. Any award of shares will be subject to the vesting schedule, if any, determined by the Compensation Committee. In general, holders of shares sold or awarded under the 2007 Plan will have the same voting, dividend and other rights as our other stockholders. As a condition to the purchase of shares under the 2007 Plan, the purchaser will make such arrangements as our Compensation Committee may require for the satisfaction of any federal, state, local or foreign withholding tax obligations that may arise in connection with such purchase.

Adjustments. In the event of any change affecting the shares of our common stock by reason of any stock dividend or split, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distribution to stockholders other than cash dividends, our board of directors will make such substitution or adjustment in the aggregate number of shares that may be distributed under the 2007 Plan and in the number and option price (or exercise or purchase price, if applicable) as it deems to be appropriate in order to maintain the purpose of the original grant.

Termination of Service. If a participant's service to our company terminates on account of death or disability, then the participant's unexercised options, if exercisable immediately before the participant's death, disability or retirement, may be exercised in whole or in part, on the earlier of the date on which such stock option would otherwise expire and one year after the event. If a participant's service to us terminates for any other reason, then the participant's unexercised options, to the extent exercisable immediately before such termination, will remain exercisable, and may be exercised in whole or in part, for a period ending on the earlier of the date on which such stock option would otherwise expire and three months after such termination of service.

Amendment and Termination. Our board of directors may, at any time, alter, amend, suspend, discontinue, or terminate the 2007 Plan; provided that such action shall not adversely affect the right of grantees to stock awards or stock options previously granted and no amendment, without the approval of our stockholders, shall increase the maximum number of shares which may be awarded under the 2007 plan in the aggregate, materially increase the benefits accruing to grantees under the 2007 Plan, change the class of employees eligible to receive options under the 2007 Plan, or materially modify the eligibility requirements for participation in the 2007 Plan.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Transactions with Officers and Directors

Other than the employment agreements described above in "Executive Compensation," since July 1, 2014, there has not been, nor is there currently proposed, any transaction or series of similar transactions to which we were or will be a party:

- in which the amount involved exceeds the lesser of $120,000 or one percent of the average of our total assets at year end for the last two completed fiscal years; and
- in which any director, executive officer, stockholder who beneficially owns more than 5% of our common stock or any member of their immediate family had or will have a direct or indirect material interest.

Our board of directors conducts an appropriate review of and oversees all related party transactions on a continuing basis and reviews potential conflict of interest situations where appropriate. Our board of directors has not adopted formal standards to apply when it reviews, approves or ratifies any related party transaction. However, our board of directors generally reviews related party transactions to ensure that they are fair and reasonable to our company and on terms comparable to those reasonably expected to be agreed to with independent third parties for the same goods and/or services at the time they are authorized by our board of directors.

PRINCIPAL AND SELLING STOCKHOLDERS

June 2016 Financing

On June 23, 2016, we entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with an institutional investor, each member of our board of directors and certain of our executive officers (collectively, the "Investors") pursuant to which we sold to the Investors, on June 24, 2016, an aggregate of 5,200,000 units (the "Units") at $1.00 per Unit (the "Purchase Price") for gross proceeds of $5,200,000. Each Unit consists of one share of our common stock (the "Shares"), and one warrant having a term of five years to purchase three-tenths of one share of our common stock at an exercise price of $1.25 per share (the "Warrants"). Each of the Investors is a selling stockholder.

In connection with the financing we entered into a Registration Rights Agreement with the Investors (the "Registration Rights Agreement") on June 24, 2016, pursuant to which we agreed to register for resale by the Investors the Shares, the shares of common stock issuable upon exercise of the Warrants and the shares of common stock issuable upon exercise of the Placement Agent Warrants (as defined below). We committed to file the registration statement no later than July 24, 2016 and to cause the registration statement to become effective no later than October 22, 2016. The Registration Rights Agreement provides for liquidated damages upon the occurrence of certain events, including our failure to file the registration statement on or before July 24, 2016 or cause it to become effective on or before October 22, 2016. The amount of liquidated damages payable to an Investor would be 1.0% of the aggregate amount invested by such Investor for each 30-day period, or pro rata portion thereof, during which the default continues, up to a maximum amount of 10% of the aggregate amount invested by such Investor. We filed the registration statement of which this prospectus is a part with the SEC pursuant to the Registration Rights Agreement.

Wunderlich Securities, Inc. ("WSI") acted as the placement agent in the financing. For their services as placement agent, we paid WSI a cash fee of $350,000 (representing 7% of the gross proceeds raised in the financing from Investors introduced by WSI), and paid for the out-of-pocket expenses incurred by WSI of $12,617. In addition, we issued to WSI and Chad J. Cooper (at WSI's instruction), a managing director of WSI, warrants to purchase an aggregate of 225,000 shares of our common stock (representing 4.5% of the number of shares of our common stock issued to Investors introduced by WSI) at a per share exercise price equal to $1.25 (the "Placement Agent Warrants"). The Placement Agent Warrants are exercisable for a period of 5 years from the closing of the financing.

Selling Stockholder Table

The following table sets forth for each person known to us to beneficially own more than five percent of our outstanding shares of common stock, each of our directors, each of our executive officers, all of our directors and

executive officers as a group and each selling stockholder, the name, the number and percentage of shares of common stock beneficially owned as of June 30, 2016, the maximum number of shares of common stock that may be offered pursuant to this prospectus and the number and percentage of shares of common stock that would be beneficially owned after the sale of the maximum number of shares of common stock, and is based upon information provided to us by each selling stockholder for use in this prospectus. The information presented in the table is based on 23,809,593 shares of our common stock outstanding on June 30, 2016.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and investment power with respect to all shares beneficially owned, subject to community property laws where applicable. For purposes of the table below, shares of common stock issuable pursuant to options and warrants held by a selling stockholder that can be acquired within 60 days of June 30, 2016, are deemed to be outstanding and to be beneficially owned by the selling stockholder holding the securities but are not treated as outstanding for the purpose of computing the percentage ownership of any other selling stockholder.

Name of Selling Stockholder	Shares Beneficially Owned		Maximum Number of Shares to be Sold Hereunder	**Shares Beneficially Owned After the Sale of the Maximum Number of Shares**	
	Number	Percentage		Number	Percentage
Executive Officers and Directors:					
Peter Victor Derycz (1) Chief Exectuive Officer, President & Director	3,685,406	15.4 %	26,000	3,659,406	15.3 %
Alan Louis Urban (2) Chief Financial Officer & Secretary	505,845	2.1 %	7,800	498,045	2.1 %
Scott Ahlberg (3) Chief Operating Officer	421,002	1.8 %	6,500	414,502	1.7 %
Janice Peterson (4) Chief Publisher Relations Officer & Director	405,979	1.7 %	5,200	400,779	1.7 %
Ian Palmer (5) Chief Sales and Marketing Officer	245,960	1.0 %	6,500	239,460	1.0 %
Chad J. Cooper (6) Director	605,750	2.5 %	245,000	360,750	1.5 %
General Merrill McPeak (7) Director	484,608	2.0 %	32,500	452,108	1.9 %
John Regazzi (8) Director	343,500	1.4 %	97,500	246,000	1.0 %
Directors and executive officers as a group (8 persons) (9)	6,698,050	26.4 %	427,000	6,271,050	24.7 %
5% Stockholders:					
Bristol Investment Fund, Ltd. (10)	4,822,772	20.3 %	-	4,822,772	20.3 %
Other Selling Stockholders:					
12 West Capital Fund LP (11)	4,883,119	19.8 %	3,815,500	1,067,619	4.3 %
12 West Capital Offshore Fund LP (12)	3,437,881	14.1 %	2,684,500	753,381	3.1 %
Wunderlich Securities, Inc. (13)	-	-	45,000	-	-
Marc Nissan (14) Chief Technology Officer	665,389	2.8 %	13,000	652,389	2.7 %

(1) Includes shares underlying options to purchase 32,000 shares of common stock at an exercise price of $1.25 per share, options to purchase 16,000 shares of common stock at an exercise price of $1.85 per share, and warrants to purchase 6,000 shares of common stock at an exercise price of $1.25 per share, and 271,026 shares of restricted stock. The restricted stock was granted as follows: 33,333 shares on September 6, 2013, 2,540 shares on November 22, 2013, 2,051 shares on January 28, 2014, 7,843 shares on May 19, 2014, 57,000 shares on August 18, 2014, 22,860 shares on November 7, 2014, 33,333 shares on March 10, 2015, 24,835 shares on May 22, 2015, 32,000 shares on August 4, 2015, 17,143 shares on February 8, 2016, 28,755 shares on February 25, 2016, and 9,333 shares on May 24, 2016. The restricted stock vests over a three year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(2) Includes 5,000 shares owned by the wife of Mr. Urban, 5,000 shares owned by each of the three children of Mr. Urban, shares underlying options to purchase 100,000 shares of common stock at an exercise price of $1.02 per share, options to purchase 125,000 shares of common stock at an exercise price of $1.30 per share, options to purchase 24,000 shares of common stock at an exercise price of $1.15 per share, and warrants to purchase 1,800 shares of common stock at an exercise price of $1.25 per share, and 211,373 shares of restricted stock. The restricted stock was granted as follows: 7,273 shares on May 20, 2013, 25,833 shares on September 6, 2013, 1,905 shares on November 22, 2013, 1,538 shares on January 28, 2014, 5,882 shares on May 19, 2014, 42,750 shares on August 18, 2014, 17,140 shares on November 7, 2014, 25,000 shares on March 10, 2015, 18,625 on May 22, 2015, 24,000 shares on August 4, 2015, 12,857 shares on February 8, 2016, 21,570 shares on February 25, 2016, and 7,000 shares on May 24, 2016. The restricted stock vests over a three year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(3) Includes shares underlying options to purchase 75,000 shares of common stock at an exercise price of $1.50 per share, options to purchase 75,000 shares of common stock at an exercise price of $1.00 per share, options to purchase 20,000 shares of common stock at an exercise price of $1.02 per share, options to purchase 25.600 shares of common stock at an exercise price of $1.15 per share, and warrants to purchase 1,500 shares of common stock at an exercise price of $1.25 per share, and 212,692 shares of restricted stock. The restricted stock was granted as follows: 7,758 shares on May 20, 2013, 26,667 shares on September 6, 2013, 1,905 shares on November 22, 2013, 1,538 shares on January 28, 2014, 5,882 shares on May 19, 2014, and 42,750 shares on August 18, 2014, 17,140 shares on November 7, 2014, 25,000 shares on March 10, 2015, 18,625 on May 22, 2015, 24,000 shares on August 4, 2015, 12,857 shares on February 8, 2016, 21,570 shares on February 25, 2016, and 7,000 shares on May 24, 2016. The restricted stock vests over a three year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(4) Includes shares underlying options to purchase 85,000 shares of common stock at an exercise price of $1.50 per share, options to purchase 75,000 shares of common stock at an exercise price of $1.00 per share, options to purchase 40,000 shares of common stock at an exercise price of $1.02 per share, options to purchase 17,600 shares of common stock at an exercise price of $1.15 per share, and warrants to purchase 1,200 shares of common stock at an exercise price of $1.25 per share, and 193,379 shares of restricted stock. The restricted stock was granted as follows: 5,333 shares on May 20, 2013, 18,333 shares on September 6, 2013, 1,587 shares on November 22, 2013, 1,282 shares on January 28, 2014, 4,902 shares on May 19, 2014, and 35,750 shares on August 18, 2014, 17,140 shares on November 7, 2014, 25,000 shares on March 10, 2015, 18,625 on May 22, 2015, 24,000 shares on August 4, 2015, 12,857 shares on February 8, 2016, 21,570 shares on February 25, 2016, and 7,000 shares on May 24, 2016. The restricted stock vests over a three year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(5) Includes shares underlying options to purchase 10,000 shares of common stock at an exercise price of $1.00 per share, options to purchase 20,000 shares of common stock at an exercise price of $1.02 per share, options to purchase 20,000 shares of common stock at an exercise price of $1.30 per share, options to purchase 16,000 shares of common stock at an exercise price of $1.15 per share, and warrants to purchase 1,500 shares of common stock at an exercise price of $1.25 per share, and 191,228 shares of restricted stock. The restricted stock was granted as follows: 7,758 shares on May 20, 2013, 26,667 shares on September 6, 2013, 1,905 shares on November 22, 2013, 1,538 shares on January 28, 2014, 5,882 shares on May 19, 2014, and 42,750 shares on August 18, 2014, 17,140 shares on November 7, 2014, 25,000 shares on March 10, 2015, 18,625 on May 22, 2015, 24,000 shares on August 4, 2015, 12,857 shares on February 8, 2016, 21,570 shares on February 25, 2016, and 7,000 shares on May 24, 2016. The restricted stock vests over a three year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

(6) Includes 315,500 shares of common stock held by DO Capital Management, Inc., 1,500 shares of common stock held by Mr. Cooper's SEP IRA, and shares underlying warrants to purchase 195,000 shares of common stock at an exercise price of $1.25 per share, and options to purchase 43,750 shares of common stock at an exercise price of $1.09 per share. Mr. Cooper exercises voting and investment power over the shares held by DO Capital Management, Inc. and his SEP IRA.

(7) Includes shares underlying warrants to purchase 50,000 shares of common stock at an exercise price of $1.25 per share, warrants to purchase 50,000 shares of common stock at an exercise price of $1.19 per share, warrants to purchase 7,500 shares of common stock at an exercise price of $1.25 per share, options to purchase 50,000 shares of common stock at an exercise price of $1.15 per share, options to purchase 50,000 shares of common stock at an exercise price of $1.05 per share, options to purchase 75,000 shares of common stock at an exercise price of $1.10 per share, and options to purchase 75,000 shares of common stock at an exercise price of $0.70 per share.

(8) Includes shares underlying warrants to purchase 22,500 shares of common stock at an exercise price of $1.25 per share, options to purchase 30,000 shares of common stock at $1.10 per share, options to purchase 16,000 shares of common stock at $0.80 per share, and options to purchase 150,000 shares of common stock at $0.70 per share.

(9) Includes shares underlying options to purchase 1,265,950 shares of common stock and warrants to purchase 337,000 shares of common stock, and 1,079,698 shares of restricted stock.

(10) Bristol Investment Fund, Ltd.'s address is 1100 Glendon Avenue, Suite 850, Los Angeles, CA 90024. Paul Kessler exercises voting and investment power over the shares held by Bristol Investment Fund, Ltd. and is the brother-in-law of Peter Victor Derycz. Mr. Kessler previously served as a member of our board of directors from August 18, 2014 through November 6, 2015.

(11) 12 West Capital Fund LP's address is 90 Park Avenue, 41st Floor, New York, NY 10016. Includes shares underlying warrants to purchase 880,500 shares of common stock at an exercise price of $1.25 per share. Joel Ramin, the General Partner of 12 West Management LP, the investment manager of 12 West Capital Fund LP, exercises voting and investment power over the shares held by 12 West Capital Fund LP but disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.

(12) 12 West Capital Offshore Fund LP's address is 90 Park Avenue, 41st Floor, New York, NY 10016. Includes shares underlying warrants to purchase 619,500 shares of common stock at an exercise price of $1.25 per share. Joel Ramin, the General Partner of 12 West Management LP, the investment manager of 12 West Capital Offshore Fund LP, exercises voting and investment power over the shares held by 12 West Capital Offshore Fund LP but disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.

(13) Wunderlich Securities, Inc.'s address is 6000 Poplar Avenue, Suite 150, Memphis, TN 38119. Consists of shares underlying warrants to purchase 45,000 shares of common stock at an exercise price of $1.25 per share. Gary Wunderlich exercises voting and investment power over the shares held by Wunderlich Securities, Inc.

(14) Includes shares underlying options to purchase 100,000 shares of common stock at an exercise price of $1.50 per share, options to purchase 100,000 shares of common stock at an exercise price of $1.00 per share, options to purchase 50,000 shares of common stock at an exercise price of $1.02 per share, options to purchase 100,000 shares of common stock at an exercise price of $1.30 per share, options to purchase 28,800 shares of common stock at an exercise price of $1.15 per share, and warrants to purchase 3,000 shares of common stock at an exercise price of $1.25 per share, and 223,989 shares of restricted stock. The restricted stock was granted as follows: 7,758 shares on May 20, 2013, 26,667 shares on September 6, 2013, 1,905 shares on November 22, 2013, 1,538 shares on January 28, 2014, 5,882 shares on May 19, 2014, and 42,750 shares on August 18, 2014, 17,140 shares on November 7, 2014, 25,000 shares on March 10, 2015, 18,625 on May 22, 2015, 24,000 shares on August 4, 2015, 12,857 shares on February 8, 2016, 21,570 shares on February 25, 2016, and 7,000 shares on May 24, 2016. The restricted stock vests over a three year period, with a one year cliff vesting period, and remains subject to forfeiture if vesting conditions are not met.

Changes in Control.

There are currently no arrangements which may result in a change of control of our company.

DESCRIPTION OF SECURITIES

General

The following is a summary of the rights of our common stock and preferred stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws as they will be in effect upon the completion of this offering. This summary does not purport to be complete and is qualified in its entirety by the provisions of our amended and restated certificate of incorporation and amended and restated bylaws.

General

As of June 30, 2016, our authorized capital stock consisted of:

- 100,000,000 shares of common stock, par value $0.001 per share; and

- 20,000,000 shares of “blank check” preferred stock, par value $0.001 per share.

As of June 30, 2016, there were 23,809,593 shares of common stock issued and outstanding and no shares of preferred stock issued and outstanding. All of our currently issued and outstanding shares of capital stock were validly issued, fully paid and non-assessable under the Nevada Revised Statute (“Nevada Law”).

Set forth below is a summary description of all of the material terms of our capital stock and convertible securities. This description is qualified in its entirety by reference to our articles of incorporation, bylaws and form of convertible securities, each of which is filed as an exhibit to the registration statement, of which this prospectus forms a part.

Common Stock

The holders of our common stock are entitled to one vote per share on each matter submitted to a vote at a meeting of our stockholders, except to the extent that the voting rights of our shares of any class or series of stock are determined

and specified as greater or lesser than one vote per share in the manner provided by our articles of incorporation. Our stockholders have no pre-emptive rights to acquire additional shares of our common stock or other securities. Our common stock is not subject to redemption rights and carries no subscription or conversion rights. In the event of liquidation of our company, the shares of our common stock are entitled to share equally in corporate assets after satisfaction of all liabilities. All shares of our common stock now outstanding are fully paid and non-assessable. Our bylaws authorize the board of directors to declare dividends on our outstanding shares.

Preferred Stock

Our board of directors is authorized to determine and alter the rights, preferences, privileges, and restrictions granted to or imposed upon any wholly unissued series of preferred shares, and to fix the number of shares and the designation of any series of preferred shares. Our board of directors may increase or decrease (but not below the number of shares of such series then outstanding) the number of shares of any series subsequent to the issue of those shares. The rights of the holders of common stock will be subject to and may be affected adversely by the rights of the holders of any preferred stock that may be issued in the future. Issuance of a new series of preferred stock could make it more difficult for a third party to acquire, or discourage a third party from acquiring, the outstanding shares of common stock and make removal of our board of directors more difficult. No rights, preferences or privileges have yet been determined and no shares of preferred stock have been issued.

Outstanding Warrants

As of June 30, 2016, we had an aggregate of 1,990,000 common stock purchase warrants issued and outstanding with a weighted average exercise price of $1.25 per share.

Options

As of June 30, 2016, we had an aggregate of 2,717,193 common stock purchase options issued and outstanding with a weighted average exercise price of $1.16 per share. The options were issued pursuant to our 2007 Equity Compensation Plan, as amended.

Anti-Takeover Provisions

Provisions of the Nevada Revised Statutes and our bylaws could have the effect of delaying or preventing a third party from acquiring us, even if the acquisition would benefit our stockholders. Such provisions of Nevada Law and our bylaws are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by the board of directors and to discourage certain types of transactions that may involve an actual or threatened change of control of our company. These provisions are designed to reduce our vulnerability to an unsolicited proposal for a takeover that does not contemplate the acquisition of all of our outstanding shares, or an unsolicited proposal for the restructuring or sale of all or part of our company.

Nevada Anti-takeover Statutes

We may become subject to Nevada’s control share acquisition laws (Nevada Revised Statutes 78.378 -78.3793), which prohibit an acquirer, under certain circumstances, from voting shares of a corporation’s stock after crossing specific threshold ownership percentages, unless the acquirer obtains the approval of the issuing corporation’s stockholders. The first such threshold is the acquisition of at least one-fifth but less than one-third of the outstanding voting power. We may become subject to Nevada’s Control Share Acquisition Act if the company has 200 or more stockholders of record at least 100 of whom are residents of the State of Nevada and does business in the State of Nevada directly or through an affiliated corporation. Currently, we do not conduct business in the State of Nevada directly or through an affiliated corporation.

We are also subject to Nevada’s Combination with Interested Stockholders Statute (Nevada Revised Statutes 78.411 -78.444) which prohibits an “interested stockholder” from entering into a “combination” with the corporation, unless certain conditions are met. An “interested stockholder” is a person who, together with affiliates and associates, beneficially owns (or within the prior three years, did beneficially own) 10 percent or more of the corporation’s voting stock, or otherwise has the ability to influence or control such corporation’s management or policies.

Bylaws

In addition, various provisions of our bylaws may also have an anti-takeover effect. These provisions may delay, defer or prevent a tender offer or takeover attempt of the company that a stockholder might consider in his or her best interest, including attempts that might result in a premium over the market price for the shares held by our stockholders. Our bylaws may be adopted, amended or repealed by the affirmative vote of the holders of at least a majority of our outstanding shares of capital stock entitled to vote for the election of directors, and except as provided by Nevada law, our board of directors shall have the power to adopt, amend or repeal the bylaws by a vote of not less

than a majority of our Directors. Any bylaw provision adopted by the board of directors may be amended or repealed by the holders of a majority of the outstanding shares of capital stock entitled to vote for the election of directors. Our bylaws also contain limitation as to who may call special meetings as well as require advance notice of stockholder matters to be brought at a meeting. Additionally, our bylaws also provide that no director may be removed by less than a two-thirds vote of the issued and outstanding shares entitled to vote on the removal.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock are available for our board of directors to issue without stockholder approval. We may use these additional shares for a variety of corporate purposes, including raising additional capital, corporate acquisitions and employee stock plans. The existence of our authorized but unissued shares of common stock could render it more difficult or discourage an attempt to obtain control of the company by means of a proxy context, tender offer, merger or other transaction since our board of directors can issue large amounts of capital stock as part of a defense to a take-over challenge. In addition, we have authorized in our articles of incorporation 20,000,000 shares of preferred stock, none of which are currently designated or outstanding. However, the Board acting alone and without approval of our stockholders can designate and issue one or more series of preferred stock containing super-voting provisions, enhanced economic rights, rights to elect directors, or other dilutive features, that could be utilized as part of a defense to a take-over challenge.

Supermajority Voting Provisions

Nevada Law provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's articles of incorporation or bylaws, unless a corporation's articles of incorporation or bylaws, as the case may be, require a greater percentage. Although our articles of incorporation and bylaws do not currently provide for such a supermajority vote on any matters, our board of directors can amend our bylaws and we can, with the approval of our stockholders, amend our articles of incorporation to provide for such a super-majority voting provision.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent's address is 6201 15th Avenue, Brooklyn, NY 11219, and its telephone number is (718) 921-8360.

PLAN OF DISTRIBUTION

The selling stockholders and any of their pledgees, donees, transferees, assignees and successors-in-interest may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or quoted or in private transactions. These sales may be at fixed or negotiated prices. The selling stockholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits investors;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- through the writing of options on the shares;
- to cover short sales made after the date that the registration statement of which this prospectus is a part is declared effective by the SEC;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share; and

- a combination of any such methods of sale.

The selling stockholders may also sell shares under Rule 144 of the Securities Act of 1933, as amended (the “Securities Act”), if available, rather than under this prospectus. The selling stockholders shall have the sole and absolute discretion not to accept any purchase offer or make any sale of shares if it deems the purchase price to be unsatisfactory at any particular time.

The selling stockholders or their respective pledgees, donees, transferees or other successors in interest, may also sell the shares directly to market makers acting as principals and/or broker-dealers acting as agents for themselves or their customers. Such broker-dealers may receive compensation in the form of discounts, concessions or commissions from the selling stockholders and/or the purchasers of shares for whom such broker-dealers may act as agents or to whom they sell as principal or both, which compensation as to a particular broker-dealer might be in excess of customary commissions. Market makers and block purchasers purchasing the shares will do so for their own account and at their own risk. It is possible that a selling stockholder will attempt to sell shares of common stock in block transactions to market makers or other purchasers at a price per share which may be below the then existing market price. We cannot assure that all or any of the shares offered in this prospectus will be issued to, or sold by, the selling stockholders. The selling stockholders and any brokers, dealers or agents, upon effecting the sale of any of the shares offered in this prospectus, may be deemed to be “underwriters” as that term is defined under the Securities Act, the Exchange Act and the rules and regulations of such acts. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We are required to pay all fees and expenses incident to the registration of the shares, including fees and disbursements of counsel to the selling stockholders, but excluding brokerage commissions or underwriter discounts.

The selling stockholders, alternatively, may sell all or any part of the shares offered in this prospectus through an underwriter. The selling stockholders have not entered into any agreement with a prospective underwriter and there is no assurance that any such agreement will be entered into.

The selling stockholders may pledge their shares to their brokers under the margin provisions of customer agreements. If a selling stockholder defaults on a margin loan, the broker may, from time to time, offer and sell the pledged shares. The selling stockholders and any other persons participating in the sale or distribution of the shares will be subject to applicable provisions of the Exchange Act, and the rules and regulations under such act, including, without limitation, Regulation M. These provisions may restrict certain activities of, and limit the timing of purchases and sales of any of the shares by, the selling stockholders or any other such person. In the event that any of the selling stockholders are deemed an affiliated purchaser or distribution participant within the meaning of Regulation M, then the selling stockholders will not be permitted to engage in short sales of common stock. Furthermore, under Regulation M, persons engaged in a distribution of securities are prohibited from simultaneously engaging in market making and certain other activities with respect to such securities for a specified period of time prior to the commencement of such distributions, subject to specified exceptions or exemptions. In addition, if a short sale is deemed to be a stabilizing activity, then the selling stockholders will not be permitted to engage in a short sale of our common stock. All of these limitations may affect the marketability of the shares.

If a selling stockholder notifies us that it has a material arrangement with a broker-dealer for the resale of the common stock, then we would be required to amend the registration statement of which this prospectus is a part, and file a prospectus supplement to describe the agreements between the selling stockholder and the broker-dealer.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Stubbs Alderton & Markiles, LLP, Sherman Oaks, California.

EXPERTS

The consolidated financial statements of Research Solutions, Inc. as of June 30, 2015 and 2014 appearing in this prospectus and registration statement have been audited by Weinberg & Company, P.A., an independent registered public accounting firm, as stated in their report appearing herein. Such consolidated financial statements have been so included in reliance upon the report of such firm given upon its authority as an expert in accounting and auditing.

ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. You may obtain copies of this information by mail from the public reference room of the SEC at 100 F Street, N.E., Room 1580, Washington, D.C. 20549, at prescribed rates. You may obtain information on the operation of the public reference rooms by calling the SEC at 1(800) SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

We file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at www.researchsolutions.com. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

RESEARCH SOLUTIONS, INC.

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Research Solutions, Inc. and Subsidiaries

Condensed Consolidated Balance Sheets

	March 31, 2016 (unaudited)	June 30, 2015
Assets		
Current assets:		
Cash and cash equivalents	$1,923,970	$1,354,158
Accounts receivable, net of allowance of $52,858 and $69,731, respectively	5,503,938	4,889,937
Prepaid expenses and other current assets	133,562	70,195
Prepaid royalties	187,901	372,581
Total current assets	7,749,371	6,686,871
Other assets:		
Property and equipment, net of accumulated depreciation of $629,693 and $585,410, respectively	87,800	83,238
Intangible assets, net of accumulated amortization of $6,350 and $0, respectively	114,450	-
Deposits and other assets	9,365	9,471
Total assets	$7,960,986	$6,779,580
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	$6,175,743	$5,611,453
Deferred revenue	617,711	75,311
Total current liabilities	6,793,454	5,686,764
Commitments and contingencies		
Stockholders' equity:		
Preferred stock; $0.001 par value; 20,000,000 shares authorized; no shares issued and outstanding	-	-
Common stock; $0.001 par value; 100,000,000 shares authorized; 18,582,860 and 18,242,125 shares issued and outstanding, respectively	18,514	18,242
Additional paid-in capital	16,719,637	16,188,358
Accumulated deficit	(15,529,306)	(15,084,437)
Accumulated other comprehensive loss	(41,313)	(29,347)
Total stockholders' equity	1,167,532	1,092,816
Total liabilities and stockholders' equity	$7,960,986	$6,779,580

See notes to condensed consolidated financial statements

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Research Solutions, Inc. and Subsidiaries

Condensed Consolidated Statements of Operations and Other Comprehensive Income (Loss)

(Unaudited)

	Three Months Ended March 31,		Nine Months Ended March 31,	
	2016	2015	2016	2015
Revenue	$8,724,217	$8,835,181	$26,066,544	$24,319,637
Cost of revenue	6,959,203	7,131,714	21,150,881	19,606,613
Gross profit	1,765,014	1,703,467	4,915,663	4,713,024
Operating expenses:				
Selling, general and administrative	1,665,090	1,659,152	5,244,267	4,622,406
Depreciation and amortization	30,310	25,005	61,144	157,885
Total operating expenses	1,695,400	1,684,157	5,305,411	4,780,291
Income (loss) from operations	69,614	19,310	(389,748)	(67,267)
Other income (expenses):				
Interest expense	(6,389)	(3,875)	(14,382)	(11,666)
Other income (expense)	(25,639)	275	(18,229)	898
Total other expenses	(32,028)	(3,600)	(32,611)	(10,768)
Income (loss) from continuing operations before provision for income taxes	37,586	15,710	(422,359)	(78,035)
Provision for income taxes	(5,210)	(17,526)	(22,510)	(24,893)
Income (loss) from continuing operations	32,376	(1,816)	(444,869)	(102,928)
Discontinued operations:				
Loss from discontinued operations	-	-	-	(395,344)
Gain from deconsolidation of former French subsidiary	-	-	-	1,548,295
Income from discontinued operations	-	-	-	1,152,951
Net income (loss)	32,376	(1,816)	(444,869)	1,050,023
Other comprehensive income (loss):				
Foreign currency translation	(6,603)	(962)	(11,966)	(7,656)
Comprehensive income (loss)	$25,773	$(2,778)	$(456,835)	$1,042,367
Basic income (loss) per common share:				
Income (loss) per share from continuing operations	$-	$-	$(0.03)	$(0.01)

Income per share from discontinued operations	$ -	$ -	$ -	$ 0.07
Net income (loss) per share	$ -	$ -	$ (0.03)	$ 0.06
Basic weighted average common shares outstanding	17,707,900	17,457,404	17,642,449	17,440,275
Diluted income (loss) per common share:				
Income (loss) per share from continuing operations	$ -	$ -	$ (0.03)	$ (0.01)
Income per share from discontinued operations	$ -	$ -	$ -	$ 0.07
Net income (loss) per share	$ -	$ -	$ (0.03)	$ 0.06
Diluted weighted average common shares outstanding	18,464,000	17,457,404	17,642,449	17,893,217

See notes to condensed consolidated financial statements

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Research Solutions, Inc. and Subsidiaries

Condensed Consolidated Statement of Stockholders' Equity

For the Nine Months Ended March 31, 2016

(Unaudited)

	Common Stock		Additional Paid-in	Accumulated	Other Comprehensive	Total Stockholders'
	Shares	Amount	Capital	Deficit	Income (Loss)	Equity
Balance, July 1, 2015	18,242,125	$18,242	$16,188,358	$(15,084,437)	$ (29,347)	$ 1,092,816
Fair value of vested stock options	-	-	245,523	-	-	245,523
Fair value of vested restricted common stock	370,033	301	276,059	-	-	276,360
Common stock repurchase and retirement	(29,298)	(29)	(20,118)	-	-	(20,147)
Modification cost of options issued to directors	-	-	29,815	-	-	29,815
Net loss for the period	-	-	-	(444,869)	-	(444,869)
Foreign currency translation	-	-	-	-	(11,966)	(11,966)
Balance, March 31, 2016	18,582,860	$18,514	$16,719,637	$(15,529,306)	$ (41,313)	$ 1,167,532

See notes to condensed consolidated financial statements

Research Solutions, Inc. and Subsidiaries

Condensed Consolidated Statements of Cash Flows

(Unaudited)

	Nine Months Ended March 31,	
	2016	2015
Cash flow from operating activities:		
Net income (loss)	$(444,869)	$1,050,023
Adjustment to reconcile net income (loss) to net cash provided by (used in) operating activities from continuing operations:		
Loss from discontinued operations	-	395,344
Gain from deconsolidation of former French subsidiary	-	(1,548,295)
Depreciation and amortization	61,145	157,885
Fair value of vested stock options	245,523	163,702
Fair value of vested restricted common stock	276,360	164,336
Modification cost of options issued to directors	29,815	-
Changes in operating assets and liabilities:		
Accounts receivable	(614,001)	(1,601,375)
Prepaid expenses and other current assets	(63,367)	(2,116)
Prepaid royalties	184,680	(541,129)
Deposits and other assets	106	207
Accounts payable and accrued expenses	564,290	1,454,383
Deferred revenue	542,400	-
Other liability	-	187,907
Net cash provided by (used in) operating activities from continuing operations	782,082	(119,128)
Net cash used in operating activities of discontinued operations	-	(34,503)
Net cash provided by (used in) operating activities	782,082	(153,631)
Cash flow from investing activities:		
Purchase of property and equipment	(49,784)	(67,555)
Purchase of intangible assets	(130,800)	(27,666)
Net cash used in investing activities from continuing operations	(180,584)	(95,221)
Cash flow from financing activities:		
Advance under line of credit	1,000,000	1,500,000
Payment under line of credit	(1,000,000)	(1,500,000)
Common stock repurchase and retirement	(20,147)	(50,605)
Net cash used in financing activities from continuing operations	(20,147)	(50,605)
Net cash used in financing activities of discontinued operations	-	(67,515)
Net cash used in financing activities	(20,147)	(118,120)

Effect of exchange rate changes	(11,539)	(144,659)
Net increase (decrease) in cash and cash equivalents	569,812	(511,631)
Cash and cash equivalents, beginning of period	1,354,158	1,884,667
Cash and cash equivalents, end of period	$1,923,970	$1,373,036
Supplemental disclosures of cash flow information:		
Cash paid for income taxes	$22,510	$24,893
Cash paid for interest	$14,382	$11,666

See notes to condensed consolidated financial statements

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RESEARCH SOLUTIONS, INC. AND SUBSIDIARIES

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Three and Nine Months Ended March 31, 2016 and 2015 (Unaudited)

Note 1. Organization, Nature of Business and Basis of Presentation

Organization

Research Solutions, Inc. (the "Company," "Research Solutions," "we," "us" or "our") was incorporated in the State of Nevada November 2, 2006. On March 4, 2013, we consummated a merger with DYSC Subsidiary Corporation, our wholly-owned subsidiary, pursuant to which we, in connection with such merger, amended our Articles of Incorporation to change our name to Research Solutions, Inc. (formerly Derycz Scientific, Inc.). Research Solutions, Inc. is a publicly traded holding company with two wholly owned subsidiaries: Reprints Desk, Inc., a Delaware corporation ("Reprints Desk") and Reprints Desk Latin America S. de R.L. de C.V, an entity organized under the laws of Mexico ("Reprints Desk Latin America").

On August 18, 2014, the Board of Directors of the Company authorized the immediate disposal of the Company's former subsidiary Techniques Appliquées aux Arts Graphiques, S.p.A. ("TAAG"), an entity organized under the laws of France, at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, the Company relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements.

The Company derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,548,295 recorded on the consolidated statements of operations for the nine months ended March 31, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. The Company has determined based on discussions with French counsel that it is remote that the Company will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, the Company has eliminated any respective liability as of June 30, 2015.

Nature of Business

We provide on-demand access to scientific, technical, and medical (“STM”) information for life science companies, academic institutions, and other research-intensive organizations. We provide two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

Article Galaxy, our cloud-based software-as-a-service (“SaaS”) solution, provides our customers with a single source to the universe of published STM content that includes over seventy million existing STM articles and over one million newly published STM articles each year. Article Galaxy allows customers to find and download in digital format STM articles that are critical to their research. In addition, Article Galaxy facilitates customers’ compliance with applicable copyright laws.

Researchers and regulatory personnel in life science and other research-intensive organizations generally require single copies of published STM journal articles for use in their research activities. They place orders with us for the articles they need and we source and electronically deliver the requested content to them generally in under an hour. This service is known in the industry as single article delivery or document delivery. We also obtain the necessary permissions from the content publisher so that our customer’s use complies with applicable copyright laws. We have arrangements with numerous content publishers that allow us to distribute their content. The majority of these publishers provide us with electronic access to their content, which allows us to electronically deliver single articles to our customers often in a matter of minutes. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to the addition or loss of customers.

We deliver the aforementioned services through our Article Galaxy journal article platform (“Article Galaxy”), which consists of proprietary software and Internet-based interfaces that allow customers to initiate orders, manage transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and enhance the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around scientific information.

As a cloud-based SaaS solution, Article Galaxy is deployed as a single system across our entire customer base. Customers access Article Galaxy securely through online web interfaces and via web service APIs, which enable customers to leverage Article Galaxy features and functionality from within proprietary and other 3rd party software systems. Article Galaxy can also be configured to satisfy a customer's individual preferences in areas such as user experience, business processes, and spend management. As a SaaS solution, Article Galaxy benefits from efficiencies in scalability, stability and development costs, resulting in significant advantages versus multiple instance or installed desktop software alternatives. We leverage these technical efficiencies to fuel rapid innovation and competitive advantage.

Reprints and ePrints

Marketing departments in life science and other research-intensive organizations generally require large quantities of printed copies of published STM journal articles called "Reprints" that are distributed to physicians and at conferences. We obtain the necessary permissions from the content publisher so that our customer's use complies with applicable copyright laws. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. Electronic copies, called "ePrints", are also used for distribution through the Internet and other electronic mechanisms. We have developed proprietary ePrint software that increases the efficiency of our customers' content purchases by transitioning from paper Reprints to electronic ePrints, and by improving compliance with applicable copyright laws and promotional regulations within the life science industry. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Principles of Consolidation

The accompanying financial statements are consolidated and include the accounts of the Company and its wholly-owned subsidiaries. Intercompany balances and transactions have been eliminated in consolidation.

Basis of Presentation

The accompanying condensed consolidated financial statements are unaudited. These unaudited interim condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. Certain information and note disclosures normally included in the financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations.

Accordingly, these interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company’s Annual Report on Form 10-K for the fiscal year ended June 30, 2015 filed with the SEC. The condensed consolidated balance sheet as of June 30, 2015 included herein was derived from the audited consolidated financial statements as of that date, but does not include all disclosures, including notes, required by GAAP.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements contain all adjustments necessary to fairly present the Company's financial position and results of operations for the interim periods reflected. Except as noted, all adjustments contained herein are of a normal recurring nature. Results of operations for the fiscal periods presented herein are not necessarily indicative of fiscal year-end results.

Note 2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Actual results could differ from these estimates.

These estimates and assumptions include estimates for reserves of uncollectible accounts, analysis of impairments of recorded goodwill and intangibles, accruals for potential liabilities and assumptions made in valuing equity instruments issued for services or acquisitions.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist of cash and cash equivalents and accounts receivable. The Company places its cash with high quality financial institutions and at times may exceed the FDIC $250,000 insurance limit. The Company does not anticipate incurring any losses related to these credit risks. The Company extends credit based on an evaluation of the customer's financial condition, generally without collateral. Exposure to losses on receivables is principally dependent on each customer's financial condition. The Company monitors its exposure for credit losses and intends to maintain allowances for anticipated losses, as required.

Cash denominated in Euros with a US Dollar equivalent of $70,241 and $112,880 at March 31, 2016 and June 30, 2015, respectively, was held by Reprints Desk in accounts at financial institutions located in Europe.

The Company has no customers that represent 10% of revenue or more for the three and nine months ended March 31, 2016 and 2015.

The following table summarizes accounts receivable concentrations:

	As of March 31, 2016	June 30, 2015	
Customer A	*	13	%

The following table summarizes vendor concentrations:

	Three Months Ended March 31,				**Nine Months Ended March 31,**			
	2016		2015		2016		2015	
Vendor A	18	%	25	%	16	%	19	%
Vendor B	*		10	%	*		10	%
Vendor C	*		*		*		*	
Vendor D	*		10	%	13	%	12	%

* Less than 10%

Revenue Recognition

The Company's policy is to recognize revenue when services have been performed, risk of loss and title to the product transfers to the customer, the selling price is fixed or determinable, and collectability is reasonably assured. We generate revenue by providing two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

We charge a transactional service fee for the electronic delivery of single articles, and a corresponding copyright fee for the permitted use of the content. This service, known in the industry as single article delivery or document delivery, generates nearly all of the revenue attributable to the Article Galaxy journal article platform. We recognize revenue from single article delivery services upon delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Reprints and ePrints

We charge a transactional fee for each Reprint or ePrint order and are responsible for printing and delivery of Reprint orders, and the electronic delivery and, in some cases, the electronic delivery mechanism of ePrint orders. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. We recognize revenue from reprints and ePrints services upon shipment or electronic delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Stock-Based Compensation

The Company periodically issues stock options, warrants and restricted stock to employees and non-employees for services, in capital raising transactions, and for financing costs. The Company accounts for share-based payments under the guidance as set forth in the Share-Based Payment Topic 718 of the Financial Accounting Standards Board (FASB) Accounting Standards Codification, which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, officers, directors, and consultants, including employee stock options, based on estimated fair values. The Company estimates the fair value of stock option and warrant awards to employees and directors on the date of grant using an option-pricing model, and the value of the portion of the award that is ultimately expected to vest is recognized as expense over the required service period in the Company's Statements of Operations. The Company estimates the fair value of restricted stock awards to employees and directors using the market price of the Company’s common stock on the date of grant, and the value of the portion of the award that is ultimately expected to vest is recognized as expense over the required service period in the Company's Statements of Operations. The Company accounts for share-based payments to non-employees in accordance with Topic 505 of the FASB Accounting Standards Codification, whereby the value of the stock compensation is based upon the measurement date as determined at either a) the date at which a performance commitment is reached, or b) the date at which the necessary performance to earn the equity instruments is complete. Stock-based compensation is based on awards ultimately expected to vest and is reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, as necessary, in subsequent periods if actual forfeitures differ from those estimates.

Foreign Currency

The accompanying consolidated financial statements are presented in United States dollars, the functional currency of the Company. Capital accounts of foreign subsidiaries are translated into US Dollars from foreign currency at their historical exchange rates when the capital transactions occurred. Assets and liabilities are translated at the exchange rate as of the balance sheet date. Income and expenditures are translated at the average exchange rate of the period. Although the majority of our revenue and costs are in US dollars, the discontinued operations of our former French subsidiary are in Euros, and the costs of Reprints Desk Latin America are in Mexican Pesos. As a result, currency exchange fluctuations may impact our revenue and the costs of our operations. We currently do not engage in any currency hedging activities.

Gains and losses from foreign currency transactions, which result from a change in exchange rates between the functional currency and the currency in which a foreign currency transaction is denominated, are included in selling, general and administrative expenses and amounted to a gain of $2,829 for the three months ended March 31, 2016, a loss of $57,647 for the three months ended March 31, 2015, and a loss of $4,293 and $94,118, for the nine months ended March 31, 2016 and 2015, respectively.

The following table summarizes the exchange rates used:

	Nine Months Ended March 31,		Year Ended June 30,	
	2016	2015	2015	2014
Period end Euro : US Dollar exchange rate	1.14	1.09	1.11	1.36
Average period Euro : US Dollar exchange rate	1.10	1.24	1.20	1.36
Period end Mexican Peso : US Dollar exchange rate	0.06	0.07	0.06	0.08
Average period Mexican Peso : US Dollar exchange rate	0.06	0.07	0.07	0.08

Net Income (Loss) Per Share

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average number of common shares outstanding for the period, excluding unvested restricted common stock. Shares of restricted stock are included in the basic weighted average number of common shares outstanding from the time they vest. Diluted earnings per share is computed by dividing the net income applicable to common stock holders by the weighted average number of common shares outstanding plus the number of additional common shares that would have been outstanding if all dilutive potential common shares had been issued, using the treasury stock method. Shares of restricted stock are included in the diluted weighted average number of common shares outstanding from the date they are granted. Potential common shares are excluded from the computation when their effect is antidilutive. At March 31, 2016 potentially dilutive securities include options to acquire 2,551,028 shares of common stock and warrants to acquire 205,000 shares of common stock. At March 31, 2015 potentially dilutive securities include options to acquire 1,978,391 shares of common stock and warrants to acquire 305,000 shares of common stock. The dilutive effect of potentially dilutive securities is reflected in diluted net income per share if the exercise prices were lower than the average fair market value of common shares during the reporting period.

Basic and diluted net loss per common share is the same for the nine months ended March 31, 2016 and the three months ended March 31, 2015, because all stock options, warrants, and unvested restricted common stock are anti-dilutive. For the three months ended March 31, 2016 and nine months ended March 31, 2015, the calculation of diluted earnings per share includes unvested restricted common stock, stock options and warrants, calculated under the treasury stock method.

The calculation of basic and diluted net income (loss) per share is presented below:

	Three Months Ended March 31,		Nine Months Ended March 31,	
	2016	2015	2016	2015
Numerator:				
Income (loss) from continuing operations	$ 32,376	$ (1,816)	$ (444,869)	$ (102,928)
Income (loss) from discontinued operations	-	-	-	1,152,951
Net income (loss)	$ 32,376	$ (1,816)	$ (444,869)	$ 1,050,023
Denominator:				
Weighted average shares outstanding (basic)	17,707,900	17,457,404	17,642,449	17,440,275
Effect of dilutive unvested restricted common stock	755,998	-	-	449,212
Effect of dilutive stock options and warrants	102	-	-	3,730
Weighted average shares outstanding (diluted)	18,464,000	17,457,404	17,642,449	17,893,217
Income (loss) per share from continuing operations:				
Basic	$ -	$ -	$ (0.03)	$ (0.01)
Diluted	$ -	$ -	$ (0.03)	$ (0.01)
Income (loss) per share from discontinued operations:				
Basic	$ -	$ -	$ -	$ 0.07
Diluted	$ -	$ -	$ -	$ 0.07
Net income (loss) per share:				
Basic	$ -	$ -	$ (0.03)	$ 0.06
Diluted	$ -	$ -	$ (0.03)	$ 0.06

Recently Issued Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers*. ASU 2014-09 is a comprehensive revenue recognition standard that will supersede nearly all existing

revenue recognition guidance under current U.S. GAAP and replace it with a principle based approach for determining revenue recognition. ASU 2014-09 will require that companies recognize revenue based on the value of transferred goods or services as they occur in the contract. The ASU also will require additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. ASU 2014-09 is effective for interim and annual periods beginning after December 15, 2017. Early adoption is permitted only in annual reporting periods beginning after December 15, 2016, including interim periods therein. Entities will be able to transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. The Company is in the process of evaluating the impact of ASU 2014-09 on the Company's financial statements and disclosures.

In June 2014, the FASB issued ASU No. 2014-12, *Compensation - Stock Compensation (Topic 718)*. The pronouncement was issued to clarify the accounting for share-based payments when the terms of an award provide that a performance target could be achieved after the requisite service period. The pronouncement is effective for reporting periods beginning after December 15, 2015. The adoption of ASU 2014-12 is not expected to have a significant impact on the Company's consolidated financial position or results of operations.

In February 2016, the FASB issued Accounting Standards Update (ASU) No. 2016-02, Leases. ASU 2016-02 requires a lessee to record a right of use asset and a corresponding lease liability on the balance sheet for all leases with terms longer than 12 months. ASU 2016-02 is effective for all interim and annual reporting periods beginning after December 15, 2018. Early adoption is permitted. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. The Company is currently evaluating the expected impact that the standard could have on its financial statements and related disclosures.

Other recent accounting pronouncements issued by the FASB, including its Emerging Issues Task Force, the American Institute of Certified Public Accountants, and the Securities and Exchange Commission did not or are not believed by management to have a material impact on the Company's present or future consolidated financial statements.

Note 3. Line of Credit

The Company entered into a Loan and Security Agreement with Silicon Valley Bank (“SVB”) on July 23, 2010, which, as amended, provides for a revolving line of credit for the lesser of $4,000,000, or 80% of eligible accounts receivable. The line of credit matures on October 31, 2017, and is subject to certain financial and performance covenants with which we were in compliance as of March 31, 2016. Financial covenants include maintaining a ratio of quick assets to current liabilities of at least 0.8 to 1.0, and maintaining tangible net worth of $600,000, plus 50% of net income for the fiscal quarter ended from and after December 31, 2015, plus 50% of the dollar value of equity issuances after October 1, 2015 and the principal amount of subordinated debt. The line of credit bears interest at the prime rate plus 2.25% for periods in which the Company maintains an account balance with SVB (less all indebtedness owed to SVB) of at least $800,000 at all times during the prior calendar month (the “Streamline Period”), and at the prime rate plus 5.25% when a Streamline Period is not in effect. The interest rate on the line of credit was 5.75% as of March 31, 2016. The line of credit is secured by the Company’s consolidated assets.

There were no outstanding borrowings under the line as of March 31, 2016 and June 30, 2015, respectively. As of March 31, 2016 and June 30, 2015, approximately $3,172,000 and $2,182,000, respectively, of available credit was unused under the line of credit.

Note 4. Stockholders’ Equity

Stock Options

In December 2007, we established the 2007 Equity Compensation Plan (the “Plan”). The Plan was approved by our board of directors and stockholders. The purpose of the Plan is to grant stock and options to purchase our common stock to our employees, directors and key consultants. On November 21, 2014, the maximum number of shares of common stock that may be issued pursuant to awards granted under the Plan (including issuance of restricted common stock) increased from 3,000,000 to 5,000,000, as approved by our board of directors and stockholders. Cancelled and forfeited stock options and stock awards may again become available for grant under the Plan. There were 1,054,284 shares available for grant under the Plan as of March 31, 2016. All stock option grants are made under the 2007 Equity Compensation Plan.

The majority of awards issued under the Plan vest immediately or over three years, with a one year cliff vesting period, and have a term of ten years. Stock-based compensation cost is measured at the grant date, based on the fair value of the awards that are ultimately expected to vest, and recognized on a straight-line basis over the requisite service period, which is generally the vesting period.

The following table summarizes vested and unvested stock option activity:

	All Options		Vested Options		Unvested Options	
	Shares	**Weighted Average Exercise Price**	Shares	**Weighted Average Exercise Price**	Shares	**Weighted Average Exercise Price**
Outstanding at June 30, 2015	2,466,836	$ 1.22	2,256,254	$ 1.21	210,582	$ 1.29
Granted	354,817	0.72	256,000	0.72	98,817	0.71
Options vesting	-	-	200,741	0.79	(200,741)	0.79
Exercised	-	-	-	-	-	-
Forfeited/Cancelled	(270,625)	1.04	(265,469)	1.03	(5,156)	1.80
Outstanding at March 31, 2016	2,551,028	$ 1.17	2,447,526	$ 1.17	103,502	$ 1.61

The weighted average remaining contractual life of all options outstanding as of March 31, 2016 was 5.98 years. The remaining contractual life for options vested and exercisable at March 31, 2016 was 6.19 years. Furthermore, the aggregate intrinsic value of options outstanding as of March 31, 2016 was $59,899, and the aggregate intrinsic value of options vested and exercisable at March 31, 2016 was $52,693, in each case based on the fair value of the Company's common stock on March 31, 2016. During the nine months ended March 31, 2016, the Company granted 354,817 options to employees and directors with a fair value of $145,451. The fair value was calculated using a Black-Scholes option pricing model with the following assumptions: (i) volatility rate of between 80.3% and 81.8%, (ii) discount rate between 1.38% and 1.87%, (iii) zero expected dividend yield, and (iv) expected term between 5 and 6 years based upon the average of the term of the option and the vesting period. The total fair value of options that vested during the nine months ended March 31, 2016 was $275,338 and is included in selling, general and administrative expenses in the accompanying statement of operations. As of March 31, 2016, the amount of unvested compensation related to these options was $61,150 which will be recorded as an expense in future periods as the options vest.

Additional information regarding stock options outstanding and exercisable as of March 31, 2016 is as follows:

Option Exercise Price	Options Outstanding	Remaining Contractual Life (in years)	Options Exercisable
$ 0.59	8,150	9.91	-
0.60	5,000	9.87	-
0.65	6,150	8.61	3,075
0.70	225,000	9.68	225,000
0.77	59,500	8.39	40,958
0.80	16,000	9.39	16,000
0.90	25,667	9.35	15,000
1.00	370,890	2.96	356,954
1.02	287,000	4.33	287,000
1.05	108,445	9.15	100,000
1.07	53,898	6.55	53,898
1.10	255,000	9.25	255,000
1.15	228,000	6.86	228,000
1.20	31,414	8.14	20,943
1.25	32,000	6.88	32,000
1.30	263,000	5.93	263,000
1.50	380,000	1.81	380,000
1.75	1,067	7.83	711
1.80	169,425	7.48	144,920
1.85	24,000	7.14	24,000
1.97	1,422	7.65	1,067
Total	2,551,028		2,447,526

On December 4, 2015, stock options originally issued to directors to purchase an aggregate of 250,000 shares of the Company’s common stock were modified to extend the amount of time allowed to exercise the stock options after separation from three months to twenty four months. Stock-based compensation cost of $29,815 was recorded during the three months ended December 31, 2015 as a result of the modification.

Warrants

The following table summarizes warrant activity:

	Number of Warrants	Weighted Average Exercise Price
Outstanding, June 30, 2015	305,000	$ 1.26
Granted	-	-
Exercised	-	-
Expired/Cancelled	(100,000)	1.22
Outstanding, March 31, 2016	205,000	$ 1.28
Exercisable, June 30, 2015	305,000	$ 1.26
Exercisable, March 31, 2016	205,000	$ 1.28

There was no intrinsic value for warrants outstanding as of March 31, 2016, based on the fair value of the Company's common stock on March 31, 2016.

Additional information regarding warrants outstanding and exercisable as of March 31, 2016 is as follows:

Warrant Exercise Price	**Warrants Outstanding**	**Remaining Contractual Life (in years)**	Warrants Exercisable
$ 1.19	100,000	5.73	100,000
1.25	100,000	4.60	100,000
3.50	2,500	0.25	2,500
4.00	2,500	0.25	2,500
Total	205,000		205,000

Restricted Common Stock

Prior to July 1, 2015, the Company issued 889,321 shares of restricted common stock to employees valued at $971,897, of which $405,504 had been recognized as an expense.

During the nine months ended March 31, 2016, the Company issued an additional 373,033 shares of restricted stock to employees. These shares vest over a three year period, with a one year cliff vesting period, and remain subject to forfeiture if vesting conditions are not met. The aggregate fair value of the stock awards was $266,254 based on the market price of our common stock ranging from $0.59 to $0.90 per share on the date of grant, which will be amortized over the three-year vesting period. Restricted common stock grants are made under the 2007 Equity Compensation Plan.

The total fair value of restricted common stock vested during the three and nine months ended March 31, 2016 was $102,026 and $276,360, respectively, and is included in selling, general and administrative expenses in the accompanying statements of operations. As of March 31, 2016, the amount of unvested compensation related to issuances of restricted common stock was $556,648, which will be recognized as an expense in future periods as the shares vest. When calculating basic net income (loss) per share, these shares are included in weighted average common shares outstanding from the time they vest. When calculating diluted net income per share, these shares are included in weighted average common shares outstanding as of their grant date.

The following table summarizes restricted common stock activity:

	Number of Shares	Weighted Average Grant Date Fair Value
Non-vested, June 30, 2015	736,746	$ 0.96
Granted	370,033	0.72
Vested	(333,869)	0.97
Forfeited	-	-
Non-vested, March 31, 2016	772,910	$ 0.84

Common Stock Repurchase and Retirement

On November 7, 2014 the Company's Board of Directors authorized the repurchase of up to $250,000 of the Company's outstanding shares of common stock through November 7, 2015. As of December 31, 2015, the Company repurchased 53,300 shares of common stock under the repurchase program at an average price of approximately $0.93 per share for an aggregate amount of approximately $49,482.

Shares repurchased are retired and deducted from common stock for par value and from additional paid in capital for the excess over par value. Direct costs incurred to acquire the shares are included in the total cost of the shares. Purchases may be made from time to time in open market or privately negotiated transactions as determined by the Company's management. The actual timing, number and value of shares repurchased will be determined by the Company's management at its discretion, and will depend on management's evaluation of market conditions and other factors. The Company has no obligation to repurchase any shares under this authorization, and the repurchase program may be suspended, discontinued or modified at any time, for any reason and without notice. The authorization to repurchase the Company's outstanding common stock has expired.

During the nine months ended March 31, 2016, the Company repurchased 29,298 shares of common stock from employees at an average market price of approximately $0.69 per share for an aggregate amount of $20,147. The shares of common stock were surrendered by employees to cover tax withholding obligations with respect to the vesting of restricted stock.

Note 5. Income Taxes

For the three and nine months ended March 31, 2016, the Company recognized net income of $32,376 and net loss of $444,869, respectively. For the nine months ended March 31, 2015, net income was $1,050,023 and the Company did not record any provision for income taxes primarily because the gain from deconsolidation of our former French subsidiary (discussed further in note 6) was a non-taxable disposition of the Company's interest in its former French subsidiary.

In accordance with Accounting Standards Codification ("ASC") 740, Income Taxes, the Company evaluates its deferred tax assets to determine if a valuation allowance is required based on the consideration of all available evidence using a "more likely than not" standard, with significant weight being given to evidence that can be objectively verified. This assessment considers, among other matters, the nature, frequency and severity of current and cumulative losses, forecasts of future profitability; the length of statutory carryover periods for operating losses and tax credit carryovers; and available tax planning alternatives. Our deferred tax assets are composed primarily of U.S. federal net operating loss carryforwards and temporary differences related to stock based compensation. Based on available objective evidence, management believes it is more likely than not that these deferred tax assets are not recognizable and will not be recognizable until its determined that we have sufficient taxable income. We may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position should be measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. ASC 740 also provides guidance on de-recognition, classification, interest and penalties on income taxes, accounting in interim periods, and disclosures. As of March 31, 2016, the Company does not have any liabilities for unrecognized tax uncertainties.

Note 6. Deconsolidation of Former French Subsidiary (TAAG)

On August 18, 2014 the Board of Directors of the Company authorized management to commit to a plan to sell TAAG. The Company concluded that TAAG's printing operations in the major geographical area of France were not aligned with the Company's long term strategy. Accordingly, the operations of TAAG were classified as discontinued operations and comparative information for prior periods has been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. Further, the Board of Directors of the Company authorized the disposal of TAAG at a reasonable price in relation to its current fair value, and in the event

such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, the Company relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements.

The Company deconsolidated the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,548,295 recorded on the consolidated statements of operations for the nine months ended March 31, 2015. The gain from deconsolidation of the Company's former French subsidiary consists of the following:

Description	Amount
Current assets	$(1,239,713)
Property and equipment, net	(359,677)
Noncurrent assets	(499,070)
Current liabilities	3,442,857
Long term liabilities	95,051
Accumulated other comprehensive income	108,847
Total	$1,548,295

In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. The Company has determined based on discussions with French counsel that it is remote that the Company will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, the Company has eliminated any respective liability as of June 30, 2015.

Revenue and expenses from discontinued operations were as follows:

	Nine Months Ended March 31, 2015
Revenue	$ 1,164,314
Cost of revenue	849,174
Gross profit	315,140
Operating expenses:	
Selling, general and administrative	660,500
Depreciation and amortization	44,027
Total operating expenses	704,527
Loss from discontinued operations before other income (expenses)	(389,387)
Other income (expenses):	
Interest expense	(5,957)
Loss from discontinued operations	$ (395,344)
Basic loss per common share:	
Loss per share from discontinued operations	$ (0.02)
Basic weighted average common shares outstanding	17,440,275
Diluted loss per common share:	
Loss per share from discontinued operations	$ (0.02)
Diluted weighted average common shares outstanding	17,893,217

Note 7. Subsequent Events

On June 23, 2016, the Company entered into a Securities Purchase Agreement (the “Securities Purchase Agreement”) with an institutional investor, each member of its board of directors and certain of its executive officers (collectively, the “Investors”) pursuant to which the Company sold to the Investors, on June 24, 2016, an aggregate of 5,200,000 units

(the "Units") at $1.00 per Unit (the "Purchase Price") for gross proceeds of $5,200,000. Each Unit consists of one share of common stock (the "Shares"), and one warrant having a term of five years to purchase three-tenths of one share of common stock at an exercise price of $1.25 per share (the "Warrants").

In connection with the financing the Company entered into a Registration Rights Agreement with the Investors (the "Registration Rights Agreement") on June 24, 2016, pursuant to which the Company agreed to register for resale by the Investors the Shares, the shares of common stock issuable upon exercise of the Warrants and the shares of common stock issuable upon exercise of the Placement Agent Warrants (as defined below). The Company committed to file the registration statement no later than July 24, 2016 and to cause the registration statement to become effective no later than October 22, 2016. The Registration Rights Agreement provides for liquidated damages upon the occurrence of certain events, including our failure to file the registration statement on or before July 24, 2016 or cause it to become effective on or before October 22, 2016. The amount of liquidated damages payable to an Investor would be 1.0% of the aggregate amount invested by such Investor for each 30-day period, or pro rata portion thereof, during which the default continues, up to a maximum amount of 10% of the aggregate amount invested by such Investor.

Wunderlich Securities, Inc. ("WSI") acted as the placement agent in the financing. For their services as placement agent, the Company paid WSI a cash fee of $350,000 (representing 7% of the gross proceeds raised in the financing from Investors introduced by WSI), and paid for the out-of-pocket expenses incurred by WSI of $12,617. In addition, the Company issued to WSI and Chad J. Cooper (at WSI's instruction), a managing director of WSI, warrants to purchase an aggregate of 225,000 shares of common stock (representing 4.5% of the number of shares of common stock issued to Investors introduced by WSI) at a per share exercise price equal to $1.25 (the "Placement Agent Warrants"). The Placement Agent Warrants are exercisable for a period of 5 years from the closing of the financing.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors

Research Solutions, Inc. and Subsidiaries

Encino, California

We have audited the accompanying consolidated balance sheets of Research Solutions, Inc. (the "Company") and Subsidiaries as of June 30, 2015 and 2014, and the related consolidated statements of operations and other comprehensive income (loss), stockholders' equity (deficiency) and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Research Solutions, Inc. and Subsidiaries as of June 30, 2015 and 2014 and the consolidated results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

/s/ Weinberg and Company, P.A

Los Angeles, California

September 8, 2015

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Research Solutions, Inc. and Subsidiaries

Consolidated Balance Sheets

	June 30, 2015	June 30, 2014
Assets		
Current assets:		
Cash and cash equivalents	$1,354,158	$1,884,667
Accounts receivable, net of allowance of $69,731 and $49,467, respectively	4,889,937	3,994,987
Prepaid expenses and other current assets	70,195	83,031
Prepaid royalties	372,581	552,689
Current assets of discontinued operations	-	1,481,183
Total current assets	6,686,871	7,996,557
Other assets:		
Property and equipment, net of accumulated depreciation of $585,410 and $494,459, respectively	83,238	108,914
Intangible assets, net of accumulated amortization of $513,605 and $430,704, respectively	-	55,235
Deposits and other assets	9,471	9,709
Noncurrent assets of discontinued operations	-	872,212
Total assets	$6,779,580	$9,042,627
Liabilities and Stockholders' Equity (Deficiency)		
Current liabilities:		
Accounts payable and accrued expenses	$5,611,453	$5,749,694
Deferred revenue	75,311	-
Current liabilities of discontinued operations	-	3,598,444
Total current liabilities	5,686,764	9,348,138
Long term liabilities:		
Long term liabilities of discontinued operations	-	113,415
Total liabilities	5,686,764	9,461,553
Commitments and contingencies		
Stockholders' equity (deficiency):		
Preferred stock; $0.001 par value; 20,000,000 shares authorized; no shares issued and outstanding	-	-
Common stock; $0.001 par value; 100,000,000 shares authorized; 18,242,125 and 17,600,242 shares issued and outstanding, respectively	18,242	17,600
Additional paid-in capital	16,188,358	15,406,033

Accumulated deficit	(15,084,437)	(15,858,656)
Accumulated other comprehensive income (loss)	(29,347)	16,097
Total stockholders' equity (deficiency)	1,092,816	(418,926)
Total liabilities and stockholders' equity (deficiency)	$6,779,580	$9,042,627

See notes to consolidated financial statements

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Research Solutions, Inc. and Subsidiaries

Consolidated Statements of Operations and Other Comprehensive Income (Loss)

	Years Ended June 30, 2015	2014
Revenue	$31,900,143	$28,483,175
Cost of revenue	25,723,942	23,029,663
Gross profit	6,176,201	5,453,512
Operating expenses:		
Selling, general and administrative	6,495,834	6,288,564
Depreciation and amortization	174,819	219,934
Total operating expenses	6,670,653	6,508,498
Loss from operations	(494,452)	(1,054,986)
Other expenses:		
Interest expense	(18,056)	(13,817)
Other income	1,215	770
Total other expenses	(16,841)	(13,047)
Loss from continuing operations before provision for income taxes	(511,293)	(1,068,033)
Provision for income taxes	(30,892)	(16,099)
Loss from continuing operations	(542,185)	(1,084,132)
Discontinued operations:		
Loss from discontinued operations	(395,344)	(782,286)
Gain from deconsolidation of former French subsidiary	1,711,748	-
Income (loss) from discontinued operations	1,316,404	(782,286)
Net income (loss)	774,219	(1,866,418)
Other comprehensive income (loss):		
Foreign currency translation	(10,764)	(59,908)
Comprehensive income (loss)	$763,455	$(1,926,326)
Basic income (loss) per common share:		
Loss per share from continuing operations	$(0.03)	$(0.06)
Income (loss) per share from discontinued operations	$0.07	$(0.05)
Net income (loss) per share	$0.04	$(0.11)

Basic weighted average common shares outstanding	17,445,812	17,230,311
Diluted income (loss) per common share:		
Loss per share from continuing operations	$(0.03)	$(0.06)
Income (loss) per share from discontinued operations	$0.07	$(0.05)
Net income (loss) per share	$0.04	$(0.11)
Diluted weighted average common shares outstanding	17,962,157	17,230,311

See notes to consolidated financial statements

Research Solutions, Inc. and Subsidiaries

Consolidated Statement of Stockholders' Equity (Deficiency)

For the Years Ended June 30, 2015 and 2014

	Common Stock Shares	Amount	Additional Paid-in Capital	Accumulated Deficit	Other Comprehensive Income	Total Stockholders' Equity (Deficiency)
Balance, July 1, 2013	16,970,465	$16,970	$14,213,443	$(13,992,238)	$ 76,005	$314,180
Stock-based compensation expense	-	-	247,385	-	-	247,385
Fair value of common stock issued for services	2,748	3	5,218	-	-	5,221
Fair value of vested restricted common stock	208,029	208	102,406	-	-	102,614
Common stock issued upon exercise of warrants	419,000	419	837,581	-	-	838,000
Net loss	-	-	-	(1,866,418)	-	(1,866,418)
Foreign currency translation	-	-	-	-	(59,908)	(59,908)
Balance, June 30, 2014	17,600,242	17,600	15,406,033	(15,858,656)	16,097	(418,926)
Stock-based compensation expense	-	-	488,437	-	-	488,437
Fair value of common stock issued for services	50,000	50	52,450	-	-	52,500
Fair value of vested restricted common stock	647,353	647	239,456			240,103
Common stock repurchase and retirement	(55,470)	(55)	(51,650)	-	-	(51,705)
Modification cost of warrants issued to directors	-	-	53,632	-	-	53,632

Elimination of cumulative translation adjustment upon deconsolidation of former French subsidiary	-	-	-	-	(34,680)	(34,680)
Net income	-	-	-	774,219	-	774,219
Foreign currency translation	-	-	-	-	(10,764)	(10,764)
Balance, June 30, 2015	18,242,125	$18,242	$16,188,358	$(15,084,437)	$ (29,347)	$1,092,816

See notes to consolidated financial statements

Research Solutions, Inc. and Subsidiaries

Consolidated Statements of Cash Flows

	Years Ended June 30, 2015	2014
Cash flow from operating activities:		
Net income (loss)	$774,219	$(1,866,418)
Adjustment to reconcile net income (loss) to net cash provided by (used in) operating activities of continuing operations:		
Loss from discontinued operations	395,344	782,286
Gain from deconsolidation of former French subsidiary	(1,711,748)	-
Depreciation and amortization	174,819	219,934
Stock-based compensation expense	488,437	247,385
Fair value of common stock issued for services	52,500	-
Fair value of vested restricted common stock	240,103	107,835
Modification cost of warrants issued to directors	53,632	-
Changes in operating assets and liabilities:		
Accounts receivable	(894,950)	(179,213)
Prepaid expenses and other current assets	12,836	(21,059)
Prepaid royalties	180,108	(200,837)
Deposits and other assets	238	3
Accounts payable and accrued expenses	(138,241)	1,016,948
Deferred revenue	75,311	-
Net cash provided by (used in) operating activities from continuing operations	(297,392)	106,864
Net cash provided by (used in) operating activities of discontinued operations	(34,503)	368,870
Net cash provided by (used in) operating activities	(331,895)	475,734
Cash flow from investing activities:		
Purchase of property and equipment	(67,555)	(16,836)
Purchase of intangible assets	(27,666)	(54,212)
Net cash used in investing activities from continuing operations	(95,221)	(71,048)
Net cash used in investing activities from discontinued operations	-	(30,130)
Net cash used in investing activities	(95,221)	(101,178)
Cash flow from financing activities:		
Issuance of shares upon exercise of warrants for cash	-	838,000
Common stock repurchase and retirement	(51,705)	-
Net cash provided by (used in) financing activities of continuing operations	(51,705)	838,000
Net cash used in financing activities of discontinued operations	(67,515)	(577,261)
Net cash provided by (used in) financing activities	(119,220)	260,739
Effect of exchange rate changes	15,827	(57,504)

Net increase (decrease) in cash and cash equivalents	(530,509)	577,791
Cash and cash equivalents, beginning of period	1,884,667	1,306,876
Cash and cash equivalents, end of period	$1,354,158	$1,884,667
Supplemental disclosures of cash flow information:		
Cash paid for income taxes	$30,892	$16,099
Cash paid for interest	$18,056	$13,817

See notes to consolidated financial statements

RESEARCH SOLUTIONS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For the Years Ended June 30, 2015 and 2014

Note 1. Organization, Nature of Business and Basis of Presentation

Organization

Research Solutions, Inc. (the “Company,” “Research Solutions,” “we,” “us” or “our”) was incorporated in the State of Nevada November 2, 2006. On March 4, 2013, we consummated a merger with DYSC Subsidiary Corporation, our wholly-owned subsidiary, pursuant to which we, in connection with such merger, amended our Articles of Incorporation to change our name to Research Solutions, Inc. (formerly Derycz Scientific, Inc.). Research Solutions, Inc. is a publicly traded holding company with two wholly owned subsidiaries: Reprints Desk, Inc., a Delaware corporation (“Reprints Desk”) and Reprints Desk Latin America S. de R.L. de C.V, an entity organized under the laws of Mexico (“Reprints Desk Latin America”).

On August 18, 2014, the Board of Directors of the Company authorized the immediate disposal of the Company’s former subsidiary Techniques Appliquées aux Arts Graphiques, S.p.A. (“TAAG”), an entity organized under the laws of France, at a reasonable price in relation to its current fair value, and in the event such sale was not consummated by September 10, 2014, that management proceed with an insolvency filing by TAAG under French law. On September 15, 2014, the French Tribunal de Commerce appointed an Administrator for TAAG following a declaration of insolvency by our legal representative, and on October 6, 2014 TAAG entered into a judicial liquidation procedure. As a result, effective September 15, 2014, the Company relinquished control of TAAG to the Tribunal and TAAG ceased to be our subsidiary and was deconsolidated from our financial statements.

The Company derecognized the assets, liabilities and other comprehensive income of TAAG with a resulting non-cash gain on deconsolidation of $1,711,748 recorded on the consolidated statements of operations for the year ended June 30, 2015. In addition, comparative information for prior periods have been restated to segregate the assets, liabilities, revenue, expenses, and cash flows related to TAAG as discontinued operations. The Company has determined based on discussion with French counsel that it is remote that the Company will be liable for the unsatisfied liabilities of TAAG as a result of the insolvency process in France, and as a result, the Company has eliminated any respective liability as of June 30, 2015.

Nature of Business

We provide on-demand access to scientific, technical, and medical (“STM”) information for life science companies, academic institutions, and other research-intensive organizations. We provide two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

Article Galaxy, our cloud-based software-as-a-service (“SaaS”) solution, provides our customers with a single source to the universe of published STM content that includes over seventy million existing STM articles and over one million newly published STM articles each year. Article Galaxy allows customers to find and download in digital format STM articles that are critical to their research. In addition, Article Galaxy facilitates customers’ compliance with applicable copyright laws.

Researchers and regulatory personnel in life science and other research-intensive organizations generally require single copies of published STM journal articles for use in their research activities. They place orders with us for the articles they need and we source and electronically deliver the requested content to them generally in under an hour. This service is known in the industry as single article delivery or document delivery. We also obtain the necessary permissions from the content publisher so that our customer’s use complies with applicable copyright laws. We have arrangements with numerous content publishers that allow us to distribute their content. The majority of these publishers provide us with electronic access to their content, which allows us to electronically deliver single articles to our customers often in a matter of minutes. Even though single article delivery services are charged on a transactional basis, customer order volume tends to be consistent from month to month in part due to consistent orders of larger customers that require the implementation of our services into their work flow, subject to fluctuations due to the addition or loss of customers.

We deliver the aforementioned services through our Article Galaxy journal article platform (“Article Galaxy”), which consists of proprietary software and Internet-based interfaces that allow customers to initiate orders, manage transactions, obtain reporting, automate authentication, improve seamless connectivity to corporate intranets, and enhance the information resources they already own, or have access to via subscriptions or internal libraries, as well as organize workgroups to collaborate around scientific information.

As a cloud-based SaaS solution, Article Galaxy is deployed as a single system across our entire customer base. Customers access Article Galaxy securely through online web interfaces and via web service APIs, which enable customers to leverage Article Galaxy features and functionality from within proprietary and other 3rd party software systems. Article Galaxy can also be configured to satisfy a customer’s individual preferences in areas such as user experience, business processes, and spend management. As a SaaS solution, Article Galaxy benefits from efficiencies in scalability, stability and development costs, resulting in significant advantages versus multiple instance or installed desktop software alternatives. We leverage these technical efficiencies to fuel rapid innovation and competitive advantage.

Reprints and ePrints

Marketing departments in life science and other research-intensive organizations generally require large quantities of printed copies of published STM journal articles called “Reprints” that are distributed to physicians and at conferences. We obtain the necessary permissions from the content publisher so that our customer’s use complies with applicable copyright laws. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. Electronic copies, called “ePrints”, are also used for distribution through the Internet and other electronic mechanisms. We have developed proprietary ePrint software that increases the efficiency of our customers’ content purchases by transitioning from paper Reprints to electronic ePrints, and by improving compliance with applicable copyright laws and promotional regulations within the life science industry. Reprints and ePrints are charged on a transactional basis and order volume typically fluctuates from month to month based on customer marketing budgets and the existence of STM journal articles that fit customer requirements.

Principles of Consolidation

The accompanying financial statements are consolidated and include the accounts of the Company and its wholly-owned subsidiaries. Intercompany balances and transactions have been eliminated in consolidation.

Note 2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Actual results could differ from these estimates.

These estimates and assumptions include estimates for reserves of uncollectible accounts, analysis of impairments of recorded goodwill and intangibles, accruals for potential liabilities and assumptions made in valuing equity instruments issued for services or acquisitions.

Cash and cash equivalents

For purposes of the statements of cash flows, the Company defines cash equivalents as all highly liquid debt instruments purchased with an original maturity of three months or less.

Fair value of financial instruments

Under Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 820, Fair Value Measurements and Disclosures, fair value is defined as the price at which an asset could be exchanged or a liability transferred in a transaction between knowledgeable, willing parties in the principal or most advantageous market for the asset or liability. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices or parameters are not available, valuation models are applied. A fair value hierarchy prioritizes the inputs used in measuring fair value into three broad levels as follows:

Level 1 – Quoted prices in active markets for identical assets or liabilities.

Level 2 – Inputs, other than the quoted prices in active markets, are observable either directly or indirectly.

Level 3 – Unobservable inputs based on the Company's assumptions.

The Company is required to use observable market data if such data is available without undue cost and effort. The Company has no fair value items required to be disclosed as of June 30, 2015 or 2014.

The carrying amounts of financial assets and liabilities, such as cash and cash equivalents, accounts receivable and accounts payable, approximate their fair values because of the short maturity of these instruments.

Allowance for doubtful accounts

The Company evaluates the collectability of its trade accounts receivable based on a number of factors. In circumstances where the Company becomes aware of a specific customer's inability to meet its financial obligations to the Company, a specific reserve for bad debts is estimated and recorded, which reduces the recognized receivable to the estimated amount the Company believes will ultimately be collected. In addition to specific customer identification of potential bad debts, bad debt charges are recorded based on the Company's historical losses and an overall assessment of past due trade accounts receivable outstanding. The Company established an allowance for doubtful accounts of $69,731 and $49,467 as of June 30, 2015 and 2014, respectively.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist of cash and cash equivalents and accounts receivable. The Company places its cash with high quality financial institutions and at times may exceed the FDIC $250,000 insurance limit. The Company does not anticipate incurring any losses related to these credit risks. The Company extends credit based on an evaluation of the customer's financial condition, generally without collateral. Exposure to losses on receivables is principally dependent on each customer's financial condition. The Company monitors its exposure for credit losses and intends to maintain allowances for anticipated losses, as required.

Cash denominated in Euros with a US Dollar equivalent of $112,880 and $166,723 at June 30, 2015 and 2014, respectively, was held in accounts at financial institutions located in Europe.

There were no customers that accounted for greater than 10% of our revenue for the years ended June 30, 2015 and 2014.

The following table summarizes accounts receivable concentrations:

	As of June 30,	
	2015	2014
Customer A	13 %	*

The following table summarizes vendor concentrations:

	Year Ended June 30,	
	2015	2014
Vendor A	19 %	22 %
Vendor B	9 %	12 %
Vendor C	10 %	11 %

* Less than 10%

Property and equipment

Property and equipment are stated at cost and are depreciated using the straight-line method over their estimated useful lives of 3 to 7 years. Leasehold improvements are amortized over the shorter of the useful lives of the related assets, or the lease term. Expenditures for maintenance and repairs are charged to operations as incurred while renewals and betterments are capitalized. Gains and losses on disposals are included in the consolidated statements of operations.

Management assesses the carrying value of property and equipment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. If there is indication of impairment, management prepares an estimate of future cash flows expected to result from the use of the asset and its eventual disposition. If these cash flows are less than the carrying amount of the asset, an impairment loss is recognized to write down the asset to its estimated fair value. For the years ended June 30, 2015 and 2014, the Company did not recognize any impairments for its property and equipment.

Intangible Assets

Management performs impairment tests of indefinite-lived intangible assets at least annually, or whenever an event occurs or circumstances change that indicates impairment has more likely than not occurred.

The Company reviews intangible assets subject to amortization at least annually to determine if any adverse conditions exist or a change in circumstances has occurred that would indicate impairment or a change in the remaining useful life. If the carrying value of an asset exceeds its undiscounted cash flows, the Company writes down the carrying value of the intangible asset to its fair value in the period identified. If the carrying value of assets is determined not to be recoverable, the Company records an impairment loss equal to the excess of the carrying value over the fair value of the assets. The Company's estimate of fair value is based on the best information available, in the absence of quoted market prices. The Company generally calculates fair value as the present value of estimated future cash flows that the Company expects to generate from the asset using a discounted cash flow income approach as described above. If the estimate of an intangible asset's remaining useful life is changed, the Company amortizes the remaining carrying value of the intangible asset prospectively over the revised remaining useful life.

As of June 30, 2015 and 2014, the Company determined that there were no indicators of impairment of its recorded intangible assets.

Revenue Recognition

The Company’s policy is to recognize revenue when services have been performed, risk of loss and title to the product transfers to the customer, the selling price is fixed or determinable, and collectability is reasonably assured. We generate revenue by providing two types of services to our customers: Article Galaxy, and Reprints and ePrints.

Article Galaxy

We charge a transactional service fee for the electronic delivery of single articles, and a corresponding copyright fee for the permitted use of the content. This service, known in the industry as single article delivery or document delivery, generates nearly all of the revenue attributable to the Article Galaxy journal article platform. We recognize revenue from single article delivery services upon delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Reprints and ePrints

We charge a transactional fee for each Reprint or ePrint order and are responsible for printing and delivery of Reprint orders, and the electronic delivery and, in some cases, the electronic delivery mechanism of ePrint orders. The majority of content publishers print their content in-house and prohibit others from printing their content; however, when not prohibited by the content publisher, we use third parties to print Reprint orders. We recognize revenue from reprints and ePrints services upon shipment or electronic delivery to the customer only when the selling price is fixed or determinable, and collectability is reasonably assured.

Stock-Based Compensation

The Company periodically issues stock options, warrants and restricted stock to employees and non-employees for services, in capital raising transactions, and for financing costs. The Company accounts for share-based payments under the guidance as set forth in the Share-Based Payment Topic 718 of the FASB Accounting Standards Codification, which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, officers, directors, and consultants, including employee stock options, based on estimated fair values. The Company estimates the fair value of stock option and warrant awards to employees and directors on the date of grant using an option-pricing model, and the value of the portion of the award that is ultimately expected to vest is recognized as expense over the required service period in the Company's Statements of Operations. The Company estimates the fair value of restricted stock awards to employees and directors using the market price of the Company’s common stock on the date of grant, and the value of the portion of the award that is ultimately expected to vest is recognized as expense over the required service period in the Company's Statements of Operations. The Company accounts for share-based payments to non-employees in accordance with Topic 505 of the FASB Accounting Standards Codification, whereby the value of the stock compensation is based upon the measurement date as determined at either a) the date at which a performance commitment is reached, or b) the date at which the necessary performance to earn the equity instruments is complete. Stock-based compensation is based on awards ultimately expected to vest and is reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, as necessary, in subsequent periods if actual forfeitures differ from those estimates.

Foreign Currency

The accompanying consolidated financial statements are presented in United States dollars, the functional currency of the Company. Capital accounts of foreign subsidiaries are translated into US Dollars from foreign currency at their historical exchange rates when the capital transactions occurred. Assets and liabilities are translated at the exchange rate as of the balance sheet date. Income and expenditures are translated at the average exchange rate of the period. Although the majority of our revenue and costs are in US dollars, the discontinued operations of our former French subsidiary are in Euros, and the costs of Reprints Desk Latin America are in Mexican Pesos. As a result, currency exchange fluctuations may impact our revenue and the costs of our operations. We currently do not engage in any currency hedging activities.

Gains and losses from foreign currency transactions, which result from a change in exchange rates between the functional currency and the currency in which a foreign currency transaction is denominated, are included in selling, general and administrative expenses and amounted to $98,122 and $16,332, for the years ended June 30, 2015 and 2014, respectively.

The following table summarizes the exchange rates used:

	Year Ended June 30,	
	2015	2014
Period end Euro : US Dollar exchange rate	1.11	1.36
Average period Euro : US Dollar exchange rate	1.20	1.36
Period end Mexican Peso : US Dollar exchange rate	0.06	0.08
Average period Mexican Peso : US Dollar exchange rate	0.07	0.08

Net Income (Loss) Per Share

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average number of common shares outstanding for the period, excluding unvested restricted common stock. Shares of restricted stock are included in the basic weighted average number of common shares outstanding from the time they vest. Diluted earnings per share is computed by dividing the net income applicable to common stock holders by the weighted average number of common shares outstanding plus the number of additional common shares that would have been outstanding if all dilutive potential common shares had been issued, using the treasury stock method. Shares of restricted stock are included in the diluted weighted average number of common shares outstanding from the date they are granted. Potential common shares are excluded from the computation when their effect is antidilutive. At June 30, 2015 potentially dilutive securities include options to acquire 2,466,836 shares of common stock and warrants to acquire 305,000 shares of common stock. At June 30, 2014 potentially dilutive securities include options to acquire 1,888,851 shares of common stock and warrants to acquire 904,998 shares of common stock. The dilutive effect of potentially dilutive securities is reflected in diluted net income per share if the exercise prices were lower than the average fair market value of common shares during the reporting period.

For the year ended June 30, 2015, the calculation of diluted earnings per share includes stock options, warrants, and unvested restricted common stock, calculated under the treasury stock method. Basic and diluted net loss per common share is the same for the year ended June 30, 2014 because all stock options, warrants, and unvested restricted common stock are anti-dilutive.

The calculation of basic and diluted net income (loss) per share is presented below:

	Year Ended June 30,	
	2015	2014
Numerator:		
Loss from continuing operations	$(542,185)	$(1,084,132)
Income (loss) from discontinued operations	1,316,404	(782,286)
Net income (loss)	$774,219	$(1,866,418)
Denominator:		
Weighted average shares outstanding (basic)	17,445,812	17,230,311
Effect of dilutive unvested restricted common stock	507,915	-
Effect of dilutive stock options and warrants	8,430	-
Weighted average shares outstanding (diluted)	17,962,157	17,230,311
Income (loss) per share from continuing operations:		
Basic	$(0.03)	$(0.06)
Diluted	$(0.03)	$(0.06)
Income (loss) per share from discontinued operations:		
Basic	$0.07	$(0.05)
Diluted	$0.07	$(0.05)
Net income (loss) per share:		
Basic	$0.04	$(0.11)
Diluted	$0.04	$(0.11)

Income taxes

The Company accounts for income taxes using the asset and liability method whereby deferred tax assets are recognized for deductible temporary differences, and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more

likely than not that some portion or all of the deferred tax assets will be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers. ASU 2014-09 will eliminate transaction- and industry-specific revenue recognition guidance under current U.S. GAAP and replace it with a principle based approach for determining revenue recognition. ASU 2014-09 will require that companies recognize revenue based on the value of transferred goods or services as they occur in the contract. The ASU also will require additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. ASU 2014-09 is effective for interim and annual periods beginning after December 15, 2017. Early adoption is permitted only in annual reporting periods beginning after December 15, 2016, including interim periods therein. Entities can transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. Management is currently assessing the impact the adoption of ASU 2014-09 and has not determined the effect of the standard on our ongoing financial reporting.

In June 2014, the FASB issued ASU No. 2014-12, *Compensation – Stock Compensation (Topic 718).* The pronouncement was issued to clarify the accounting for share-based payments when the terms of an award provide that a performance target could be achieved after the requisite service period. The pronouncement is effective for reporting periods beginning after December 15, 2015. The adoption of ASU 2014-12 is not expected to have a significant impact on the Company's consolidated financial position or results of operations.

In August 2014, the FASB issued ASU No. 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, which provides guidance on determining when and how to disclose going-concern uncertainties in the financial statements. The new standard requires management to perform interim and annual assessments of an entity's ability to continue as a going concern within one year of the date the financial statements are issued. An entity must provide certain disclosures if conditions or events raise substantial doubt about the entity's ability to continue as a going concern. The ASU applies to all entities and is effective for annual periods ending after December 15, 2016, and interim periods thereafter, with early adoption permitted. The Company is currently evaluating the impact the adoption of ASU 2014-15 on the Company's financial statement presentation and disclosures.

In January 2015, the FASB issued ASU No. 2015-01 (Subtopic 225-20) - *Income Statement - Extraordinary and Unusual Items*. ASU 2015-01 eliminates the concept of an extraordinary item from GAAP. As a result, an entity will no longer be required to segregate extraordinary items from the results of ordinary operations, to separately present an extraordinary item on its income statement, net of tax, after income from continuing operations or to disclose income taxes and earnings-per-share data applicable to an extraordinary item. However, ASU 2015-01 will still retain the presentation and disclosure guidance for items that are unusual in nature and occur infrequently. ASU 2015-01 is effective for periods beginning after December 15, 2015. The adoption of ASU 2015-01 is not expected to have a material effect on the Company's consolidated financial statements. Early adoption is permitted.

In February, 2015, the FASB issued ASU No. 2015-02, *Consolidation (Topic 810): Amendments to the Consolidation Analysis*. ASU 2015-02 provides guidance on the consolidation evaluation for reporting organizations that are required to evaluate whether they should consolidate certain legal entities such as limited partnerships, limited liability corporations, and securitization structures (collateralized debt obligations, collateralized loan obligations, and mortgage-backed security transactions). ASU 2015-02 is effective for periods beginning after December 15, 2015. The adoption of ASU 2015-02 is not expected to have a material effect on the Company's consolidated financial statements. Early adoption is permitted.

In April 2015, the FASB issued ASU No. 2015-5, *Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-4)* which provides guidance regarding whether a cloud computing arrangement includes a software license. If a cloud computing arrangement includes a software license, then the entity should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the entity should account for the arrangement as a service contract. The guidance will not change GAAP for an entity's accounting for service contracts. This pronouncement is effective

for fiscal years, including interim periods within those fiscal years, beginning after December 15, 2015. Early adoption is permitted. The Company is currently evaluating the impact of the adoption of ASU 2015-03 on the Company's financial statements and disclosures.

Other recent accounting pronouncements issued by the FASB, includint-size:10pt;">

$
307

$
22

7
%

$
5

2
%
Sulfur (long ton)
$
138

$
91

$
105

$
47

52
%

$
(14
)

(13
)%

Blended rock (metric tonne)	$	58	$	59	$	61	$	(1	)	(2	)%	$	(2	)
Production volume (in thousands of metric tonnes) - North America		8,357		9,425		9,520		(1,068	)	(11	)%		(95	)

Blended rock (metric tonne) change in percentage vs. prior: (3)%; Production volume - North America: (1)%

(a) Includes intersegment sales volumes.
(b) Includes sales volumes of MicroEssentials® and animal feed ingredients.

(c) Sales volumes of rock are presented on a wet tonne basis based on average moisture levels of 3.5% to 4.5% as it exits the drying process and is prepared for shipping.

Year Ended December 31, 2018 compared to Year Ended December 31, 2017

The Phosphates segment’s net sales were $3.9 billion for the year ended December 31, 2018, compared to $3.6 billion for the same period a year ago. The increase in net sales was due to higher average selling prices that resulted in an increase of approximately $500 million, partially offset by lower sales volumes which resulted in a decrease in net sales of approximately $300 million. Consolidated sales of phosphate rock from the Miski Mayo mine also contributed approximately $100 million to net sales for the year ended December 31, 2018. We began consolidating the Miski Mayo results in the current year due to the additional 40% economic interest acquired in the Acquisition, which increased our aggregate ownership interest in the mine to 75%.

Our average finished product selling price was $453 per tonne for the year ended December 31, 2018 compared to $379 per tonne for the same period a year ago. The positive impact on net sales related to selling price was primarily attributable to an increase in global demand, as well as a reduction in global product availability due to the temporary idling of our Plant City, Florida phosphates manufacturing facility and a delay in competitors' new capacity coming online.

The Phosphates segment’s sales volumes of finished products decreased to 8.4 million tonnes for the year ended December 31, 2018, compared to 9.5 million tonnes in 2017. The decrease in sales volumes in the current year was primarily due to the temporary idling of our Plant City, Florida phosphates manufacturing facility, partially offset by record sales volumes of MicroEssentials® products.

Gross margin for the Phosphates segment increased to $581.5 million in the current year compared with $332.2 million for the prior year. The increase was primarily driven by the $500 million impact of higher selling prices in the current year, which included higher selling prices from MicroEssentials® products that sell at a premium to conventional products, and a favorable impact of lower rock costs of approximately $55 million. This was partially offset by negative impacts of higher sulfur and ammonia costs of approximately $220 million in the current year due to the tightening of global supply and demand for each of these raw materials. In addition, gross margin in the current year was unfavorably impacted by approximately $50 million, due to idle plant costs, depreciation expense and increased water transportation costs at our Plant City, Florida facility and South Pasture, Florida mine, and $20 million related to a refinement made during the current year to our weighted average inventory costing.

The average consumed price for ammonia for our North American operations increased to $334 per tonne in 2018 from $312 a year ago. We purchase approximately one-third of our ammonia from various suppliers in the spot market, with the remaining two-thirds either purchased through an ammonia supply agreement or produced internally at our Faustina, Louisiana location. The average consumed price for sulfur for our North American operations increased to $138 per long ton for the year ended December 31, 2018 from $91 in the same period a year ago. The purchase price of these raw materials is driven by global supply and demand. The consumed ammonia and sulfur prices also include transportation, transformation, and storage costs. The average consumed cost of purchased and produced rock decreased to $58 per tonne in the current year from $59 a year ago. Our rock costs have benefited from the consolidation of Miski Mayo as well as using less rock purchased from third parties in the current year period compared to the prior year.

The Phosphates segment's production of crop nutrient dry concentrates and animal feed ingredients decreased to 8.4 million tonnes for the year ended December 31, 2018, compared to 9.4 million in 2017. This volume decrease in the current year was primarily due to the idling of our Plant City, Florida phosphates manufacturing facility. For the year ended December 31, 2018, our operating rate for processed phosphate production increased to 86%, excluding Plant City capacity, which was not considered available capacity, compared to 81% in the same period of the prior year.

Our North American phosphate rock production was 14.2 million tonnes in the current year compared with 15.0 million tonnes in the same period a year ago. The decrease from the prior year was due to the lower production from the temporary idling of our South Pasture, Florida mine in August 2018. Phosphate rock production for the Miski Mayo mine, which was a nonconsolidated equity investment in 2017, was 4.1 million wet tonnes in the current year, which was a production record for the mine.

Year Ended December 31, 2017 compared to Year Ended December 31, 2016

The Phosphates segment's net sales were $3.6 billion for the year ended December 31, 2017, compared to $3.7 billion for 2016. The decrease in net sales was due to lower average selling prices and lower sales volumes, which each had a negative impact on net sales of approximately $60 million compared to the prior year.

Our average finished product selling price was $379 per tonne for the year ended December 31, 2017 compared to $383 in 2016. The negative impact on net sales related to selling price was primarily attributable to a decline in the selling price of feed products, which were impacted by increased competition in the current year, as well as a shift in the product mix of MAP and MicroEssentials® products.

The Phosphates segment's sales volumes decreased to 9.5 million tonnes for the year ended December 31, 2017, compared to 9.7 million tonnes in 2016. The decrease in sales volumes in 2017 was due to a decrease in feed volumes, which were negatively impacted by increased competition from lower priced competitors in the market and lost sales volumes related to impacts from Hurricane Irma.

Gross margin for the Phosphates segment decreased to $332.2 million in the current year compared with $349.8 million for 2016. Lower average selling prices and lower sales volumes resulted in decreases to gross margin of approximately $60 million and $10 million, respectively. This was offset by approximately $70 million related to lower raw material costs. Gross margin was negatively impacted by approximately $40 million related to planned and unplanned downtime at our Faustina, Louisiana ammonia facility, mostly in the second quarter of 2017.

The average consumed price for ammonia for our North American operations increased to $312 per tonne in 2017 from $307 in 2016. The average consumed price for sulfur for our North American operations decreased to $91 per long ton for the year ended December 31, 2017, from $105 in 2016. The purchase price of these raw materials is

driven by global supply and demand. The average consumed cost of purchased and produced rock decreased to $59 per tonne in 2017 from $61 in 2016. The percentage of phosphate rock purchased from our Miski Mayo Mine included in cost of goods sold in our North American operations was 9% for the years ended December 31, 2017 and 2016.

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The Phosphates segment's production of crop nutrient dry concentrates and animal feed ingredients was 9.4 million tonnes for the year ended December 31, 2017 and 9.5 million tonnes for the year ended December 31, 2016, resulting in an operating rate of 81% for processed phosphate production for both 2017 and 2016. On December 10, 2017, we temporarily idled our Plant City, Florida phosphate manufacturing facility.
Our phosphate rock production was 15.0 million tonnes in 2017 compared with 14.2 million tonnes in 2016. We generally manage our rock production consistent with our long term mine plans.
Potash Net Sales and Gross Margin
The following table summarizes the Potash segment's net sales, gross margin, sales volume and selling price:

	Years Ended December 31,			2018-2017		2017-2016	
(in millions, except price per tonne or unit)	2018	2017	2016	Change	Percent	Change	Percent
Net sales:							
North America	$1,298.6	$1,097.3	$1,024.3	$201.3	18 %	$73.0	7 %
International	875.3	755.3	661.4	120.0	16 %	93.9	14 %
Total	2,173.9	1,852.6	1,685.7	321.3	17 %	166.9	10 %
Cost of goods sold	1,576.7	1,461.0	1,429.1	115.7	8 %	31.9	2 %
Gross margin	$597.2	$391.6	$256.6	$205.6	53 %	$135.0	53 %
Gross margin as a percentage of net sales	27.5 %	21.1 %	15.2 %				
Sales volume[(a)] (in thousands of metric tonnes)							
MOP	7,991	7,923	7,254	68	1 %	669	9 %
Specialty[(b)]	791	678	524	113	17 %	154	29 %
Total Potash Segment Tonnes	8,782	8,601	7,778	181	2 %	823	11 %
Realized prices ($/tonne)							
Average finished product selling price (destination)	$248	$215	$217	$33	15 %	$(2)	(1)%
Production volume (in thousands of metric tonnes)	9,239	8,650	7,596	589	7 %	1,054	14 %

(a) Includes intersegment sales volumes.
(b) Includes sales volumes of K-mag, Aspire and animal feed ingredients.
Year Ended December 31, 2018 compared to Year Ended December 31, 2017
The Potash segment's net sales increased to $2.2 billion for the year ended December 31, 2018, compared to $1.9 billion in the same period a year ago. The increase in net sales was driven by a favorable impact from higher average selling prices of approximately $260 million and higher sales volumes of approximately $40 million compared to the prior year.
Our average finished product selling price was $248 per tonne for the year ended December 31, 2018, an increase of $33 per tonne compared with the prior year period, due to improved market sentiment driven by stronger global demand and a delay in competitors' new capacity ramping up.
The Potash segment's sales volumes increased to 8.8 million tonnes for the year ended December 31, 2018, compared to 8.6 million tonnes in the same period a year ago, due to improved market sentiment driven by stronger demand. In the current year, recognized sales volumes were negatively impacted by Canpotex's adoption of the new revenue standards which resulted in the deferral of approximately 450,000 tonnes as of December 31, 2018.
Gross margin for the Potash segment increased to $597.2 million in the current year, from $391.6 million in the prior year period. Gross margin was positively impacted by $260 million related to the increase in selling prices. This was partially offset by approximately $60 million related to the net impact of higher Canadian resource taxes and lower royalties as discussed below. These and other factors affecting gross margin are further discussed below.
We had expense of $159.4 million from Canadian resource taxes for the year ended December 31, 2018, compared to $70.1 million in the prior year period. Royalty expense decreased to $39.4 million for the year ended December 31, 2018, compared to $71.9 million in the prior year period. The fluctuations in Canadian resource taxes and royalty expense are a result of higher profitability from higher average selling prices and lower capital expenditures in the

current year, and the resolution of a royalty matter with the government of Saskatchewan in the prior year.

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We incurred $154.7 million in brine management expenses, including depreciation on brine assets, at our Esterhazy mine in 2018, compared to $151.3 million in 2017. We have been effectively managing the brine inflows at Esterhazy since 1985, and from time to time we experience changes to the amounts and patterns of brine inflows. Inflows continue to be within the range of our historical experience. Brine inflow expenditures continue to reflect the cost of addressing changing inflow patterns, including inflows from below our mine workings, which can be more complex and costly to manage. The Esterhazy mine has significant brine storage capacity. Depending on inflow rates, pumping and disposal rates, and other variables, the volume of brine stored in the mine may change significantly from period to period. In general, the higher the level of brine stored in the mine, the less time available to mitigate new or increased inflows that exceed our capacity for pumping or disposal of brine outside the mine, and therefore the less time to avoid flooding and/or loss of the mine. Our past investments in remote injection and increased pumping capacities facilitate our management of the brine inflows and the amount of brine stored in the mine. We are continuing the expansion of capacity in our Potash segment with the K3 shafts at our Esterhazy mine. Once completed, this will provide us the opportunity to eliminate future brine inflow management costs and risks by closing our K1 and K2 shafts.

For the year ended December 31, 2018, potash production increased to 9.2 million tonnes compared to 8.7 million tonnes in the prior year period, due to less down time in the current year. Our operating rate for potash production was 88% for 2018, compared to 87% for 2017. Our operating rate in 2018 reflects higher capacity as a result of a proving run at our Belle Plaine mine completed in 2017.

Year Ended December 31, 2017 compared to Year Ended December 31, 2016

The Potash segment's net sales increased to $1.9 billion for the year ended December 31, 2017, compared to $1.7 billion in 2016. The increase was primarily due to higher sales volumes that resulted in an increase in net sales of approximately $180 million.

Our average finished product selling price was $215 per tonne for the year ended December 31, 2017, compared with $217 per tonne in 2016. The benefit from the increase in our average MOP selling price was more than offset by a decrease in our average K-Mag sales price, due to increased competition in this area.

The Potash segment's sales volumes increased to 8.6 million tonnes for the year ended December 31, 2017, compared to 7.8 million tonnes in 2016 due to the factors discussed in the Overview.

Gross margin for the Potash segment increased to $391.6 million in 2017, from $256.6 million in 2016. Gross margin was positively impacted by approximately $40 million related to higher sales volumes, partially offset by a decrease of approximately $10 million driven by a decrease in our average K-Mag sales price as discussed above. Gross margin was also favorably impacted by approximately $120 million, due to the effects of operating more efficiently at higher levels of production, partially offset by an increase of approximately $50 million related to royalty expense, as described below. These and other factors affecting gross margin and costs are further discussed below.

We had expense of $70.1 million from Canadian resource taxes for the year ended December 31, 2017, compared to $101.1 million in 2016. Royalty expense increased to $71.9 million for the year ended December 31, 2017, compared to $20.5 million in 2016. The increase in royalty expense for 2017 was related to the resolution of a royalty matter with the government of Saskatchewan to settle disputed Canadian potash royalties for prior years. This had a favorable impact on Canadian resource taxes for 2017. Canadian resource taxes were also lower in 2017 due to a shift in the mix of production by mine.

We incurred $151.3 million in expenses, including depreciation on brine assets, at our Esterhazy mine in 2017, compared to $153.4 million in 2016.

For the year ended December 31, 2017, potash production was 8.7 million tonnes compared to 7.6 million tonnes in 2016. Our operating rate for potash production was 87% for 2017 compared to 72% for 2016. In 2016, we took steps to scale our operations, in light of reduced customer demand, by idling our Colonsay, Saskatchewan potash mine for the second half of 2016. In 2017, we also completed a proving run at our Belle Plaine mine in February 2017, which resulted in favorable production compared to 2016.

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Mosaic Fertilizantes Net Sales and Gross Margin

The following table summarizes the Mosaic Fertilizantes segment's net sales, gross margin, sales volume and selling price. The prior year activity reflects our former International Distribution segment excluding our China and India distribution activity, which is now being reported in Corporate, Eliminations and Other.

	Years Ended December 31,			2018-2017		2017-2016	
(in millions, except price per tonne or unit)	2018	2017	2016	Change	Percent	Change	Percent
Net Sales	$3,747.1	$2,220.1	$2,113.9	$1,527.0	69 %	$106.2	5 %
Cost of goods sold	3,364.2	2,091.5	1,988.9	1,272.7	61 %	102.6	5 %
Gross margin	$382.9	$128.6	$125.0	$254.3	198 %	$3.6	3 %
Gross margin as a percent of net sales	10.2 %	5.8 %	5.9 %				
Sales volume (in thousands of metric tonnes)							
Phosphate produced in Brazil	2,847	302	265	2,545	NM	37	14 %
Potash produced in Brazil	323	—	—	323	NM	—	NM
Purchased nutrients	5,964	5,714	5,406	250	4 %	308	6 %
Total Mosaic Fertilizantes Segment Tonnes	9,134	6,016	5,671	3,118	52 %	345	6 %
Realized prices ($/tonne)							
Average finished product selling price (destination)	$410	$369	$373	$41	11 %	$(4)	(1)%
Purchases ('000 tonnes)							
DAP/MAP from Mosaic	539	659	843	(120)	(18)%	(184)	(22)%
MicroEssentials® from Mosaic	1,058	912	790	146	16 %	122	15 %
Potash from Mosaic/Canpotex	2,361	2,073	1,697	288	14 %	376	22 %
Production volume (in thousands of metric tonnes)	3,749	472	413	3,277	NM	59	14 %

Year Ended December 31, 2018 compared to Year Ended December 31, 2017

The Mosaic Fertilizantes segment's net sales increased to $3.7 billion for the year ended December 31, 2018, compared to $2.2 billion for 2017. The increase in net sales during the current year was due to approximately $1.2 billion of net sales from the Acquired Business and approximately $300 million due to increases in average selling prices. The increase in average selling prices was due to better market conditions, higher international pricing of fertilizer and increased sales volumes in both conventional and premium products resulting from our growth strategy. The overall average finished product selling price increased $41 per tonne to $410 per tonne for 2018, due to an increase in the price of materials used to make our purchased nutrient products and higher demand of fertilizer as a result of better market conditions.

The Mosaic Fertilizantes segment's sales volume increased to 9.1 million tonnes for the year ended December 31, 2018, compared to 6.0 million tonnes for the same period a year ago, primarily due to the sales volumes from the Acquired business.

Our total gross margin increased to $382.9 million for the year ended December 31, 2018, from $128.6 million in the prior year. The increase is primarily due to the Acquired Business, favorable inventory positioning and the benefit of favorable foreign exchange impacts in the current year. In addition, gross margin was also favorably impacted by approximately $49 million related to the effect of the purchase price adjustment for the fair market value of acquired inventory, primarily on rock.

The average consumed price for ammonia for our Brazilian operations was $376 per tonne for the year ended December 31, 2018. The average consumed sulfur price for our Brazilian operations was $197 per long ton for the year ended December 31, 2018. The consumed ammonia and sulfur prices also include transportation, transformation, and storage costs.

Year Ended December 31, 2017 compared to Year Ended December 31, 2016

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The Mosaic Fertilizantes segment's net sales increased to $2.2 billion for the year ended December 31, 2017, compared to $2.1 billion for 2016. In 2017, higher sales volumes favorably impacted net sales by approximately $130 million compared to 2016. This was partially offset by a decrease in average selling price, which negatively impacted net sales by approximately $21 million compared to 2016.

The overall average finished product selling price decreased $4 per tonne to $369 per tonne for 2017, driven primarily by a change in the mix of products sold and lower market prices.

The Mosaic Fertilizantes segment's sales volume increased to 6.0 million tonnes for the year ended December 31, 2017, compared to 5.7 million tonnes for 2016, as a result of strong overall demand in Brazil. This increased demand was a result of our focused efforts to grow premium product sales, particularly MicroEssentials® sales, and better demand for MOP.

Our total gross margin increased to $128.6 million for the year ended December 31, 2017, compared with $125.0 million for 2016 due to increased sales volumes.

Corporate, Eliminations and Other

In addition to our three operating segments, we assign certain costs to Corporate, Eliminations and Other, which is presented separately in Note 25 to our Notes to Condensed Consolidated Financial Statements. As part of the Realignment, during the first quarter of 2018, the results of the China and India distribution business, which had previously been reported in our International Distribution segment, were moved into the Corporate, Eliminations and Other category. In addition, the Corporate, Eliminations and Other category includes, intersegment eliminations, including profit on intersegment sales, unrealized mark-to-market gains and losses on derivatives, debt expenses and Streamsong Resort® results of operations. Our operating results for the years ended December 31, 2017 and 2016 have been recast to reflect the Realignment.

Gross margin for Corporate, Eliminations and Other was a loss of $63.2 million for the year ended December 31, 2018, compared to a loss of $9.6 million in the same period a year ago. The change was driven by a higher elimination of profit on intersegment sales of $43.7 million in the current year period, due to increased intersegment sales volumes and higher average selling prices, compared to $8.4 million in the prior year period. Contributing to the change was a net unrealized loss of $32.4 million in the current year period, primarily on foreign currency derivatives for Canada, compared to a net unrealized loss of $12.3 million in the prior year period. Distribution operations in India and China had revenues and gross margin of $533.9 million and $42.8 million, respectively, for the year ended December 31, 2018, compared to revenues and gross margin of $493.2 million and $46.9 million, respectively, for the year ended December 31, 2017. Sales volumes of finished products were 1.4 million tonnes for the years ended December 31, 2018 and 2017.

Gross margin for Corporate, Eliminations and Other was a loss of $9.6 million for the year ended December 31, 2017, compared to a gain of $78.6 million in 2016. The change was driven by an unrealized loss in 2017 of $12.3 million, primarily on foreign currency derivatives, compared to a gain of $70.4 million in the prior year period. We also had a higher elimination of profit on intersegment sales of $8.4 million in the current year period, compared to a favorable $24.8 million in 2016. Distribution operations in India and China had revenues and gross margin of $493.2 million and $46.9 million, respectively, for the year ended December 31, 2017, compared to revenues and gross margin of $419.6 million and $21.2 million, respectively, for the year ended December 31, 2016. Sales volumes of finished products were 1.4 million tonnes for the year ended December 31, 2017, compared to 1.1 million tonnes in 2016.

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Other Income Statement Items

	Years Ended December 31,			2018-2017		2017-2016	
(in millions)	2018	2017	2016	Change	Percent	Change	Percent
Selling, general and administrative expenses	$341.1	$301.3	$304.2	$39.8	13 %	$(2.9)	(1)%
Other operating expenses	229.0	75.8	186.8	153.2	NM	(111.0)	(59)%
Interest (expense)	(215.8)	(171.3)	(140.6)	(44.5)	26 %	(30.7)	22 %
Interest income	49.7	33.2	28.2	16.5	50 %	5.0	18 %
Interest expense, net	(166.1)	(138.1)	(112.4)	(28.0)	20 %	(25.7)	23 %
Foreign currency transaction (loss) gain	(191.9)	49.9	40.1	(241.8)	NM	9.8	24 %
Other expense	(18.8)	(3.5)	(4.3)	(15.3)	NM	0.8	(19)%
Provision for (benefit from) income taxes	77.1	494.9	(74.2)	(417.8)	(84)%	569.1	NM
Equity in net (loss) earnings of nonconsolidated companies	(4.5)	16.7	(15.4)	(21.2)	(127)%	32.1	NM

Selling, General and Administrative Expenses

Selling, general and administrative expenses were $341.1 million for the year ended December 31, 2018, compared to $301.3 million for the same period a year ago. Approximately $20 million of the increase in the current year is due to the operations of the Acquired Business, and approximately $20 million is related to higher incentive compensation expense in the current year.

Selling, general and administrative expenses were $301.3 million for the year ended December 31, 2017, compared to $304.2 million for the same period in 2016. The benefit of cost reduction initiatives in 2017 was approximately $13.0 million more than in 2016. This was partially offset by increased bad debt expense and the impact of inflation.

Other Operating Expenses

Other operating expenses were $229.0 million for the year ended December 31, 2018, compared to $75.8 million for the prior year period. Other operating expenses typically relate to four major categories: 1) Asset Retirement Obligations ("AROs"), 2) environmental and legal reserves, 3) insurance reimbursements and 4) gain/loss on sale or disposal of fixed assets. The current year includes $57 million of asset write-off expense, $40 million of fees and integration costs related to the Acquisition, $30 million of ARO expenses and adjustments, $29 million to capture synergies and $11 million in estimated earn-out obligations due to Vale.

Other operating expenses were $75.8 million for the year ended December 31, 2017, compared to $186.8 million for the same period in 2016. The year ended December 31, 2017 includes professional service costs of $26 million related to the Acquisition, $14 million related to an increase in our reserve for estimated costs associated with the sinkhole at our New Wales facility, which is discussed further in Note 22 to our Consolidated Financial Statements, $20 million of restructuring expense related to the temporary idling of our Plant City, Florida phosphate manufacturing facility, and $11 million of ARO expenses and adjustments. These were partially offset by a pre-tax gain on the sale of approximately 1,500 acres of vacant and undesignated real property near our Faustina facility in Louisiana of $52.1 million.

In 2016, other operating expenses included an expense of $70 million related to our reserve for estimated costs associated with a sinkhole that formed at our New Wales phosphate production facility in Florida, a loss of $43 million related to the cancellation of the construction of a barge intended to transport ammonia and $19 million of severance costs related to organizational restructuring, partially offset by the receipt of approximately $28 million in insurance proceeds related to a warehouse roof at our Carlsbad, New Mexico location that collapsed in 2014.

Interest Expense, Net

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Net interest expense increased to $166.1 million for the year ended December 31, 2018, compared to $138.1 million in 2017 and $112.4 million in 2016. The year over year increases were due to higher debt levels and lower capitalized interest compared to the prior periods. The year ended December 31, 2017, also included the negative impact of approximately $12 million related to settlement of our pre-issuance interest rate swap agreements.

Foreign Currency Transaction (Loss) Gain

In 2018, we recorded a foreign currency transaction loss of $191.9 million. The loss was the result of the effect of the strengthening of the U.S. dollar relative to the Brazilian real on significant U.S. dollar-denominated payables held by our Brazilian subsidiaries and the strengthening of the U.S. dollar relative to the Canadian dollar on significant U.S. dollar-denominated intercompany loans.

In 2017, we recorded a foreign currency transaction gain of $49.9 million. The gain was mainly the result of the weakening of the U.S. dollar relative to the Canadian dollar on significant U.S. dollar-denominated intercompany loans, partially offset by U.S. dollar cash held by our Canadian subsidiaries and the strengthening of the U.S. dollar relative to the Brazilian Real on significant U.S. dollar-denominated payables held by our Brazilian subsidiaries.

In 2016, we recorded a foreign currency transaction gain of $40.1 million. The gain was mainly the result of the weakening of the U.S. dollar relative to the Canadian dollar on significant U.S. dollar-denominated intercompany loans and the weakening of the U.S. dollar relative to the Brazilian Real on significant U.S. dollar-denominated payables.

Other Expense

For the years ended December 31, 2018, 2017 and 2016, we had other expense of $18.8 million, $3.5 million and $4.3 million, respectively. The current year includes $12 million of realized losses on investments held in two financial assurance trust funds created in 2016 to provide additional financial assurance for the estimated costs of closure and long-term care of our Florida and Louisiana phosphogypsum management systems (the “RCRA Trusts”). The year ended December 31, 2017 included $1 million of realized gains from investments held by the RCRA trusts. The year ended December 31, 2016, included realized losses from investments held by the RCRA Trusts of $10 million, partially offset by the gain on sale of an equity investment of approximately $7 million.

Equity in Net (Loss) Earnings of Nonconsolidated Companies

For the year ended December 31, 2018, we had a loss from equity of nonconsolidated companies of $4.5 million, net of tax, compared to gain of $16.7 million, net of tax, for the prior year. The current year loss was primarily related to the operations of MWSPC, which commenced DAP production in 2018. The gain in the prior year was related to income from MWSPC, which began ammonia production in late 2016, partially offset by losses from the joint venture that owned the Miski Mayo mine, whose operations were impacted by flooding in the region earlier in 2017.

The loss in 2016 was due to the decision by Canpotex not to proceed with construction of a new export terminal at the Port of Prince Rupert in British Columbia, as Canpotex determined it had sufficient port access and terminal capacity options to meet its needs. Mosaic's share of the loss was $24 million, or $16 million, net of tax.

Provision for (Benefit from) Income Taxes

	Effective Tax Rate	Provision for Income Taxes
Year Ended December 31, 2018	14.0 %	$ 77.1
Year Ended December 31, 2017	132.3 %	494.9
Year Ended December 31, 2016	(30.6)%	(74.2)

For all years, our income tax is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

On December 22, 2017, The Act was enacted, significantly altering U.S. corporate income tax law. The SEC issued Staff Accounting Bulletin 118, which allows companies to record reasonable estimates of enactment impacts where the underlying analysis and calculations are not yet complete (“Provisional Estimates”). The Provisional Estimates must be finalized within a one-year measurement period. In the period ending December 31, 2017, we recorded Provisional Estimates of the impact of The Act of $457.5 million related to several key changes in the law. As of December 31, 2018, the impacts of The Act have

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been finalized. All future impacts of future issued guidance will be appropriately accounted for in the period in which the law is enacted.

The Act imposed a one-time tax on "deemed" repatriation of foreign subsidiaries' earnings and profits. The repatriation resulted in an estimated non-cash charge of $107.7 million. The charge was offset by a $202.6 million, non-cash reduction in the deferred tax liability related to certain undistributed earnings. Both of these items were recorded in the period ending December 31, 2017. The December 31, 2017 provisional estimates have been revised and finalized in the period ending December 31, 2018 resulting in an additional benefit of $9.0 million of which a cost of $12.2 million is included in the tax expense specific to the period and a benefit of $21.2 million is included in the annual effective tax rate. However, the benefit of $21.2 million results from certain provisions of The Act that pertain to the repatriation that, based on proposed guidance from the U.S. Internal Revenue Service, we anticipate could reverse when the regulations are finalized.

As of December 31, 2017, we recognized a $2.3 million non-cash, deferred tax benefit related to the reduction of the U.S. federal rate from 35 percent to 21 percent.

The Act significantly modified the U.S. taxation of foreign earnings and the treatment of the related foreign tax credits. In December 2017, as a result of these changes, we recorded valuation allowances against our foreign tax credits and our anticipatory foreign tax credits of $105.8 million and $440.3 respectively. As of December 2018, we concluded that the foreign tax credits would more likely than not be utilized and the related valuation allowance of $105.8 million was reversed as a benefit. This benefit arose due to both revisions in the estimated impact of The Act and estimates with respect to future forecasted income. Of the $105.8 million benefit, $30.6 million was recorded as tax benefit specific to the period.

As of December 31, 2018, we have recorded a valuation allowance recorded against the branch basket foreign tax credits of $156.8 million and anticipatory foreign tax credits of $361.6 million.

The Act repeals the corporate alternative minimum tax, or AMT, system and allows for the cash refund of excess AMT credits. As of December 31, 2017, the refundable AMT amounts were subject to a set of federal budgeting rules where a certain portion of the refundable amount would permanently be disallowed (the "Sequestration Rules"). We estimated that we would receive a cash refund of $121.5 million net of an $8.6 million charge related to the Sequestration Rules. In 2018, guidance was released that concluded that the Sequestration Rules do sequestration does not apply to AMT credits related to The Act. As of December 31, 2018, we estimate that we will receive a cash refund of $100.4 million and the sequestration charge of $8.6 million recorded at December 31, 2017 has been reversed. The estimated refundable alternative minimum tax credit was included in other non-current assets at both December 31, 2018 and December 31, 2017.

The Act introduced a new category of taxable income called global intangible low-taxed income ("GILTI"). No provisional estimates were recorded as of December 31, 2017 for the impacts of GILTI since we had not completed our full analysis of that provision of The Act. We have included GILTI in our December 31, 2018 provision for income taxes, which did not have a material impact to the Company for the current year. We have elected an accounting policy to record any GILTI liabilities as period costs.

In the year ended December 31, 2018, other items specific to the period included a cost of $0.7 million related to the following: a benefit of ($30.6) million related to revised valuation allowances on foreign tax credits, a $12.2 million cost as a result of revisions to the provisional estimates related to The Act, a $15.0 million cost for withholding taxes related to undistributed earnings, a cost of $11.7 million for valuation allowances in foreign jurisdictions, a benefit of ($8.6) million related to release of the sequestration on future AMT refunds, and other miscellaneous benefits of $1.0 million.

In the year ended December 31, 2017, tax expense specific to the period included a cost of $15.1 million related to the $10.4 million pre-tax charges resulting from the resolution of a royalty matter with the government of Saskatchewan and related royalty impacts, a $7.5 million cost related to share-based compensation, and a $6.7 million expense related to the Peru rate change, offset by a $14.9 million U.S. state deferred benefit and other miscellaneous benefits of $6.1 million.

In the year ended December 31, 2016, tax expense specific to the period included a benefit of $54.2 million, which includes a domestic benefit of $85.8 million related to the resolution of an Advanced Pricing Agreement, which is a

tax treaty-based process, partially offset by a $23.3 million expense related to distributions from certain non-U.S. subsidiaries and $8.3 million of expense primarily related to share-based excess cost. For further information, please see Note 13 to our Notes to Consolidated Financial Statements.

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Critical Accounting Estimates

We prepare our Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America which requires us to make various judgments, estimates and assumptions that could have a significant impact on our reported results and disclosures. We base these estimates on historical experience and other assumptions believed to be reasonable at the time we prepare our financial statements. Changes in these estimates could have a material effect on our Consolidated Financial Statements.

Our significant accounting policies can be found in Note 2 of our Notes to Consolidated Financial Statements. We believe the following accounting policies include a higher degree of judgment and complexity in their application and are most critical to aid in fully understanding and evaluating our reported financial condition and results of operations.

Accounting for Business Combinations

We account for business combinations under the acquisition method of accounting. This method requires the recording of acquired assets and assumed liabilities at their acquisition date fair values. The excess of the purchase price over the fair value of assets acquired and liabilities assumed is recorded as goodwill. Determining the fair value of assets acquired and liabilities assumed requires management's judgment and often involves the use of significant estimates and assumptions, including management assumptions and third party information. Although independent appraisals may be used to assist in the determination of the fair values of certain assets and liabilities, those determinations are usually based on significant estimates provided by management, such as forecasted revenue or profit. The fair value of mineral reserves, certain other long lived assets and AROs are based on assumptions with respect to future cash inflows and outflows, and discount rates. The fair values of property, plant and equipment are based on the consideration that unless otherwise identified, they will continue to be used "as is" and as part of the ongoing business. In contemplation of the in-use premise and the nature of the assets, the fair value is developed primarily using a cost approach. See Note 24 of our Notes to Consolidated Financial Statements for additional information regarding the acquisition of Mosaic Fertilizantes P&K S.A.

Recoverability of Goodwill

Goodwill is the excess of the purchase price consideration over the estimated fair value of net assets of acquired businesses. The carrying value of goodwill in our reporting units is tested annually as of October 31st for possible impairment. We typically use an income approach valuation model, representing present value of future cash flows, to determine the fair value of a reporting unit. Growth rates for sales and profits are determined using inputs from our annual strategic and long range planning process. The rates used to discount projected future cash flows reflect a weighted average cost of capital based on the Company's industry, capital structure and risk premiums, including those reflected in the current market capitalization. When preparing these estimates, management considers each reporting unit's historical results, current operating trends, and specific plans in place. These estimates are impacted by various factors including inflation, the general health of the economy and market competition. In addition, events and circumstances that might be indicators of possible impairment are assessed during other interim periods. As of October 31, 2018, the date of the annual impairment testing, the Company concluded that the fair values of all reporting units were in excess of their respective carrying values and the goodwill for those units was not impaired. However, we determined that our Potash reporting unit had an estimated fair value that was not in significant excess of its carrying value. As a result, the goodwill assigned to the Potash reporting unit could be at risk of future impairment. Our other reporting units have substantial fair value in excess of their carrying values. See Note 10 of our Notes to Consolidated Financial Statements for additional information regarding the goodwill impairment analysis, including the methodologies and assumptions used in estimating the fair values of our reporting units. As of December 31, 2018, we had $1.7 billion of goodwill.

Useful Lives of Depreciable Assets, Methods of Depreciation, and Rates of Depletion

We estimate initial useful lives of property, plant and equipment, and/or methods of depreciation, based on operational experience, current technology, improvements made to the assets, and anticipated business plans. Factors affecting the fair value of our assets may also affect the estimated useful lives of our assets and these factors can change. Therefore, we periodically review the estimated remaining useful lives of our facilities and other significant assets and adjust our depreciation rates prospectively where appropriate.

Depletion expenses for mining operations, including mineral reserves, are generally determined using the units-of-production method based on estimates of recoverable reserves. These estimates may change based on new information regarding the extent or quality of mineral reserves, permitting or changes in mining strategies.

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Environmental Liabilities and Asset Retirement Obligations

We record accrued liabilities for various environmental and reclamation matters including the demolition of former operating facilities, and AROs.

Contingent environmental liabilities are described in Note 22 of our Notes to Consolidated Financial Statements. Accruals for environmental matters are based primarily on third-party estimates for the cost of remediation at previously operated sites and estimates of legal costs for ongoing environmental litigation. We regularly assess the likelihood of material adverse judgments or outcomes, the effects of potential indemnification, as well as potential ranges or probability of losses. We determine the amount of accruals required, if any, for contingencies after carefully analyzing each individual matter. Estimating the ultimate settlement of environmental matters requires us to develop complex and interrelated assumptions based on experience with similar matters, our history, precedents, evidence, and facts specific to each matter. Actual costs incurred in future periods may vary from the estimates, given the inherent uncertainties in evaluating environmental exposures. As of December 31, 2018, and 2017, we had accrued $58.6 million and $35.1 million, respectively, for environmental matters.

As indicated in Note 14 of our Notes to Consolidated Financial Statements, we recognize AROs in the period in which we have an existing legal obligation, and the amount of the liability can be reasonably estimated. We utilize internal engineering experts as well as third-party consultants to assist in determining the costs of retiring certain of our long-term operating assets. Assumptions and estimates reflect our historical experience and our best judgments regarding future expenditures. The assumed costs are inflated based on an estimated inflation factor and discounted based on a credit-adjusted risk-free rate. For active facilities, fluctuations in the estimated costs (including those resulting from a change in environmental regulations), inflation rates and discount rates can have a significant impact on the corresponding assets and liabilities recorded in the Consolidated Balance Sheets. However, changes in the assumptions for our active facilities would not have a significant impact on the Consolidated Statements of Earnings in the year they are identified. For closed facilities, fluctuations in the estimated costs, inflation, and discount rates have an impact on the Consolidated Statements of Earnings in the year they are identified as there is no asset related to these items. Phosphate land reclamation activities in North America generally occur concurrently with mining operations; as such, we accrue and expense reclamation costs as we mine. As of December 31, 2018, and 2017, $1.2 billion and $859.3 million, respectively, was accrued for AROs (current and noncurrent amounts) in North and South America. In August 2016, Mosaic deposited $630 million into two trust funds as financial assurance to support certain estimated future asset retirement obligations. See Note 14 of our Notes to Consolidated Financial Statements for additional information regarding the EPA RCRA Initiative.

Income Taxes

We make estimates for income taxes in three major areas: uncertain tax positions, valuation allowances, and U.S. deferred income taxes on our non-U.S. subsidiaries' undistributed earnings.

On December 22, 2017, The Act was enacted, significantly altering U.S. corporate income tax law. The SEC issued Staff Accounting Bulletin 118, which allows companies to record reasonable estimates of enactment impacts where the all of the underlying analysis and calculations are not yet complete. The Provisional Estimates must be finalized within a one year measurement period. In the period ending December 31, 2017, we recorded Provisional Estimates of the impact of The Act of $457.5 million related to several key changes in the law. As of December 31, 2018, the impacts of The Act have been finalized. All future impacts of future issued guidance will be appropriately accounted for in the period in which the law is enacted.

The Act imposed a one-time tax on "deemed" repatriation of foreign subsidiaries' earnings and profits. The repatriation resulted in an estimated non-cash charge of $107.7 million. The charge was offset by a $202.6 million, non-cash reduction in the deferred tax liability related to certain undistributed earnings. Both of these items were recorded in the period ending December 31, 2017. The December 31, 2017 provisional estimates have been revised and finalized in the period ending December 31, 2018 resulting in an additional benefit of $9.0 million of which a cost of $12.2 million is included in the tax expense specific to the period and a benefit of $21.2 million is included in the annual effective tax rate. However, the benefit of $21.2 million results from certain provisions of The Act that pertain to the repatriation that, based on proposed guidance from the U.S. Internal Revenue Service, we anticipate could reverse when the regulations are finalized.

As of December 31, 2017, we recognized a $2.3 million non-cash, deferred tax benefit related to the reduction of the U.S. federal rate from 35 percent to 21 percent.

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The Act significantly modified the U.S. taxation of foreign earnings and the treatment of the related foreign tax credits. In December 2017, as a result of these changes, we recorded valuation allowances against our foreign tax credits and our anticipatory foreign tax credits of $105.8 million and $440.3 respectively. As of December 2018, we concluded that the foreign tax credits would more likely than not be utilized and the related valuation allowance of $105.8 million was reversed as a benefit. This benefit arose due to both revisions in the estimated impact of The Act and estimates with respect to future forecasted income. Of the $105.8 million benefit, $30.6 million was recorded as tax benefit specific to the period.

As of December 31, 2018, we have recorded a valuation allowance recorded against the U.S. branch basket foreign tax credits of $156.8 million and anticipatory foreign tax credits of $361.6 million.

The Act repeals the corporate alternative minimum tax, or AMT, system and allows for the cash refund of excess AMT credits. As of December 31, 2017, the refundable AMT amounts were subject to a set of federal budgeting rules where a certain portion of the refundable amount would permanently be disallowed (the "Sequestration Rules"). We estimated that we would receive a cash refund of $121.5 million net of an $8.6 million charge related to the Sequestration Rules. In 2018, guidance was released that concluded that the Sequestration Rules do not apply to AMT credits related to The Act. As of December 31, 2018, we estimate that we will receive a cash refund of $100.4 million and the sequestration charge of $8.6 million recorded at December 31, 2017 has been reversed. The estimated refundable alternative minimum tax credit was included in other non-current assets at both December 31, 2018 and December 31, 2017.

The Act introduced a new category of taxable income called global intangible low-taxed income ("GILTI"). No provisional estimates were recorded as of December 31, 2017 for the impacts of GILTI since we had not completed our full analysis of that provision of The Act. We have included GILTI in our December 31, 2018 provision for income taxes, which did not have a material impact to the Company for the current year. We have elected an accounting policy to record any GILTI liabilities as period costs.

Beginning in calendar year 2018, under The Act, any dividends from controlled foreign corporations will be tax-free from a U.S. income tax perspective. Additionally, there will not be any foreign tax credits associated with foreign dividends. Therefore, there are no federal U.S. implications of future repatriations on non-U.S. subsidiaries' undistributed earnings. However, since there are no U.S. foreign tax credits associated with foreign dividends, any foreign withholding tax associated with a future repatriation will need to be accrued if the earnings are not permanently reinvested.

Due to Mosaic's global operations, we assess uncertainties and judgments in the application of complex tax regulations in a multitude of jurisdictions. Future changes in judgment related to the expected ultimate resolution of uncertain tax positions will affect earnings in the quarter of such change. While it is often difficult to predict the final outcome or the timing of resolution of any particular uncertain tax position, our liabilities for income taxes reflect what we believe to be the more likely than not outcome. We adjust these liabilities, as well as the related interest, in light of changing facts and circumstances, including negotiations with taxing authorities in various jurisdictions, outcomes of tax litigation, and resolution of disputes arising from tax audits in the normal course of business. Settlement of any particular position may require the use of cash. Based upon an analysis of tax positions taken on prior year returns and expected positions to be taken on the current year return, management has identified gross uncertain income tax positions of $38.1 million as of December 31, 2018.

A valuation allowance is provided for deferred tax assets for which it is more likely than not that the related tax benefits will not be realized. Significant judgment is required in evaluating the need for and magnitude of appropriate valuation allowances. The realization of the Company's deferred tax assets is dependent on generating certain types of future taxable income, using both historical and projected future operating results, the source of future income, the reversal of existing taxable temporary differences, taxable income in prior carry-back years (if permitted) and the availability of tax planning strategies. As of December 31, 2018, and 2017, we had a valuation allowance of $1.5 billion and $584.1 million, respectively. Changes in tax laws, assumptions with respect to future taxable income, tax planning strategies, resolution of matters under tax audit and foreign currency exchange rates could result in adjustment to these allowances.

We have not recorded U.S. deferred income taxes on certain of our non-U.S. subsidiaries' undistributed earnings as such amounts are intended to be reinvested outside the United States indefinitely. Generally, such amounts become subject to U.S. taxation upon the remittance of dividends and under certain other circumstances. It is not practicable to estimate the amount of additional U.S. tax liabilities we would incur.

We have included a further discussion of income taxes in Note 13 of our Notes to Consolidated Financial Statements.

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Liquidity and Capital Resources

We define liquidity as the ability to generate or access adequate amounts of cash to meet current cash needs. We assess our liquidity in terms of our ability to fund working capital requirements, fund sustaining and opportunity capital projects, pursue strategic opportunities and make capital management decisions, which include making payments on and issuing indebtedness and making distributions to our shareholders, either in the form of share repurchases or dividends. Our liquidity, to a certain extent, is subject to general economic, financial, competitive and other factors that are beyond our control.

As of December 31, 2018, we had cash and cash equivalents of $0.8 billion, plus marketable securities held in trusts to fund future obligations of $0.6 billion, long-term debt, including current maturities of $4.5 billion and short-term debt of $11.5 million, and stockholders' equity of $10.6 billion. We have a target liquidity buffer of $2.5 billion, including cash and available committed credit facilities. We also target debt leverage ratios that are consistent with investment grade credit ratings. Our capital allocation priorities include maintaining our investment grade ratings and financial strength, sustaining our assets, including ensuring the safety and reliability of our assets, investing to support our strategic initiatives and returning excess cash to shareholders, including paying our dividend. During 2018, we completed the Acquisition. The cash paid at closing was $1.08 billion (adjusted based on matters such as the estimated working capital of Vale Fertilizantes at the time of closing). We funded this amount with the proceeds of a $1.25 billion public debt offering that was completed in November 2017. The remainder of the debt offering was used to pay transaction costs and expenses and to fund the majority of the $200 million that we prepaid against our outstanding term loan in January 2018. We prepaid the remaining $684 million of the term loan in 2018 and paid off $89 million in maturing bonds, bringing total repayments of long-term debt, including other long-term notes, to over $800 million in 2018. During 2018, we invested $954.5 million in capital expenditures and returned cash to shareholders through cash dividends of $38.5 million. In January 2019, we increased our annual dividend target to $0.20 per share.

All of our cash and cash equivalents are diversified in highly rated investment vehicles. Our cash and cash equivalents are held either in the U.S. or held by non-U.S. subsidiaries and are not subject to significant foreign currency exposures, as the majority are held in investments denominated in U.S. dollars as of December 31, 2018. These funds may create foreign currency transaction gains or losses, however, depending on the functional currency of the entity holding the cash.

In addition, there are no significant restrictions that would preclude us from bringing these funds back to the U.S.; however, The Act significantly altered U.S. corporate income tax law. The Act imposed a one-time tax on the "deemed" repatriation of foreign subsidiaries' earnings and profits. The repatriation resulted in an estimated non-cash charge of $107.7 million. The charge was offset by a $202.6 million, non-cash reduction in the deferred tax liability related to certain undistributed earnings, as discussed in Note 13 of our Notes to Consolidated Financial Statements.

Cash Requirements

We have certain contractual obligations that require us to make cash payments on a scheduled basis. These include, among other things, long-term debt payments, interest payments, operating leases, unconditional purchase obligations, and funding requirements of pension and postretirement obligations. Our long-term debt has maturities ranging from one year to 25 years. Unconditional purchase obligations are our largest contractual cash obligations. These include obligations for capital expenditures related to our expansion projects, contracts to purchase raw materials such as sulfur, ammonia, phosphate rock and natural gas, obligations to purchase raw materials for our international distribution activities and equity contributions for or loans to nonconsolidated investments, including MWSPC. Other large cash obligations are our AROs and other environmental obligations primarily related to our Phosphates and Mosaic Fertilizantes segments. We expect to fund our AROs, purchase obligations, long-term debt and capital expenditures with a combination of operating cash flows, cash and cash equivalents, and borrowings. See Off-Balance Sheet Arrangements and Obligations below for the amounts owed by Mosaic under Contractual Cash Obligations and for more information on other environmental obligations, and the discussion of MWSPC in Note 9 of our Notes to Consolidated Financial Statements for more information on this matter.

Sources and Uses of Cash

The following table represents a comparison of the net cash provided by operating activities, net cash used in investing activities, and net cash provided by (used in) financing activities for calendar years 2018, 2017, and 2016:

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(in millions)	Years Ended December 31,			2018-2017		2017-2016	
Cash Flow	2018	2017	2016	Change	Percent	Change	Percent
Net cash provided by operating activities	$1,409.8	$935.5	$1,260.2	$474.3	51 %	$(324.7)	(26)%
Net cash used in investing activities	(1,944.7)	(667.8)	(1,866.0)	(1,276.9)	(191)%	1,198.2	64 %
Net cash (used in) provided by financing activities	(724.8)	1,200.8	(888.6)	(1,925.6)	160 %	2,089.4	(235)%

As of December 31, 2018, we had cash and cash equivalents of $0.8 billion. Funds generated by operating activities, available cash and cash equivalents, and our revolving credit facility continue to be our most significant sources of liquidity. We believe funds generated from the expected results of operations and available cash, cash equivalents and borrowings either under our revolving credit facility or through long-term borrowings will be sufficient to finance our operations, including our expansion plans, existing strategic initiatives, and expected dividend payments for the next 12 months. There can be no assurance, however, that we will continue to generate cash flows at or above current levels. At December 31, 2018, we had $1.99 billion available under our $2.0 billion revolving credit facility.

Operating Activities

Net cash flow from operating activities has provided us with a significant source of liquidity. For the year ended December 31, 2018, net cash provided by operating activities was $1.4 billion, compared to $0.9 billion in the same period of the prior year. Our results of operations, after non-cash adjustments to net earnings, contributed $1.4 billion to cash flows from operating activities during 2018 compared to $1.3 billion during 2017. During 2018, we had an unfavorable working capital change of $21.7 million compared to an unfavorable change of $316.9 million during 2017.

The change in working capital for the year ended December 31, 2018 was primarily driven by an unfavorable impact from the changes in inventories of $497.4 million mostly offset by the favorable impact of the change in accounts payable and accrued liabilities of $342.0 million and a favorable impact from the change in other current assets and noncurrent assets of $86.7 million.

The increase in inventories was primarily related to increased raw material costs and building inventory volumes in all our segments at year-end. The favorable change in accounts payable was primarily driven by the timing of payments and an increase in raw material costs. Accrued liabilities increased due to liabilities associated with customer prepayments in Brazil and prepayments from an affiliate. The favorable impact in other current and noncurrent assets is primarily due to receiving a tax refund and payment of subsidy amounts in India in the current year.

The change in working capital for the year ended December 31, 2017, was primarily driven by unfavorable impacts from the changes in inventories of $155.7 million, an unfavorable impact from the change in net receivables of $91.2 million, and an unfavorable impact from the change in accounts payable and accrued liabilities of $65.7 million. The change in inventories was primarily related to the increased cost of ammonia in the fourth quarter of 2017, compared to the same period in 2016, and to more inventory in transit at December 31, 2017, compared to December 31, 2016. The unfavorable impact in accounts payable and accrued liabilities was primarily due to a decrease in our accrual for costs associated with the New Wales sinkhole, as many of these costs were paid in 2017, and the timing of payments in 2017 compared to 2016. The change in net receivables is due to primarily to higher sales volumes in December 2017, compared to December 2016.

The change in assets and liabilities for the year ended December 31, 2016, was primarily driven by favorable impacts from the changes in inventories of $263.0 million and other current and noncurrent assets of $239.8 million, partially offset by an unfavorable impact from the change in accounts payable and accrued liabilities of $243.9 million. The change in inventories was primarily related to the lower cost of raw material and inventory purchases. The change in other current and noncurrent assets was driven by a decrease in the balance of final price deferred product and a decrease in income tax receivable. The balance of our final price deferred product decreased during 2016 as rising prices late in the year caused customers to price product at the end of 2016. Income taxes receivable decreased due to the receipt of a refund for income taxes in 2016. The unfavorable impact in accounts payable was primarily due to the timing of payments for our operations in Brazil.

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Investing Activities

Net cash used in investing activities for the year ended December 31, 2018 was $1.9 billion, compared to $0.7 billion in the same period a year ago. In the current year, we completed the Acquisition for approximately $1.0 billion. See further discussion of the Acquisition in Note 24 of our Notes to Consolidated Financial Statements. We also had capital expenditures of $954.5 million in 2018.

Net cash used in investing activities was $0.7 billion for the year ended December 31, 2017, which included an investment of $62.5 million in MWSPC and $300.7 million of proceeds on net sales of assets. Included in net proceeds on sales of assets was $52.1 million related to the sale of land near our Faustina, Louisiana facility and $230.0 million for the sale of an articulated tug and barge unit to an affiliate of Savage Companies. See Note 23 of our Notes to Consolidated Financial Statements in this report for further discussion. We also had capital expenditures of $820.2 million in 2017.

Net cash used in investing activities for the year ended December 31, 2016 was $1.9 billion. Included in net cash used in investing activities in 2016 was an investment of $220.0 million in MWSPC. In addition, we invested $169.0 million in a consolidated affiliate for the construction of vessels intended to transport anhydrous ammonia, primarily for Mosaic’s operations. In 2016, we had capital expenditures of $843.1 million. Also, in 2016, approximately $200 million, previously held in the Plant City Trust, was released to us after we arranged for substitute financial assurance through delivery of a surety bond by insurance companies for financial assurance purposes, as discussed in Note 14 of our Notes to Consolidated Financial Statements.

Financing Activities

Net cash used in financing activities was $0.7 billion for the year ended December 31, 2018. In 2018, we made payments on our long-term debt of $802.9 million. We also received net proceeds from short-term borrowings of $10.7 million and net proceeds from structured accounts payable of $72.0 million. During 2018, we paid dividends of $38.5 million.

Net cash provided by financing activities was $1.2 billion for the year ended December 31, 2017. On November 13, 2017, we completed a $1.25 billion public debt offering consisting of $550 million aggregate principal amount of 3.250% senior notes due 2022 and $700 million aggregate principal amount of 4.050% senior notes due 2027. Financing activities for 2017 also reflected net proceeds from structured accounts payable of $248.3 million and dividends paid of $210.6 million.

Net cash used in financing activities was $0.9 billion for the year ended December 31, 2016. Cash used in financing activities for 2016 reflected net payments for structured accounts payable of $358.6 million and dividends paid of $385.1 million. During 2016, we also purchased shares of our common stock for approximately $75.0 million under our 2015 Repurchase Program.

Debt Instruments, Guarantees and Related Covenants

See Note 11 of our Notes to Consolidated Financial Statements for additional information relating to our financing arrangements, which is hereby incorporated by reference.

Financial Assurance Requirements

In addition to various operational and environmental regulations primarily related to our Phosphates segment, we incur liabilities for reclamation activities under which we are subject to financial assurance requirements. In various jurisdictions in which we operate, particularly Florida and Louisiana, we are required to pass a financial strength test or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. See Other Commercial Commitments under Off-Balance Sheet Arrangements and Obligations and Note 22 of our Notes to Consolidated Financial Statements for additional information about these requirements.

Off-Balance Sheet Arrangements and Obligations

Off-Balance Sheet Arrangements

In accordance with the definition under rules of the Securities and Exchange Commission (“SEC”), the following qualify as off-balance sheet arrangements:

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- certain obligations under guarantee contracts that have “any of the characteristics identified in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) paragraph ASC 460-10-15-4 (Guarantees Topic)”;
- a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to that entity for such assets;
- any obligation, including a contingent obligation, under a contract that would be accounted for as derivative instruments except that it is both indexed to the registrant’s own stock and classified as equity; and
- any obligation, arising out of a variable interest in an unconsolidated entity that is held by, and material to, the registrant, where such entity provides financing, liquidity, market risk or credit risk support to the registrant, or engages in leasing, hedging or research and development services with the registrant.

Information regarding guarantees that meet the above requirements is included in Note 17 of our Notes to Consolidated Financial Statements and is hereby incorporated by reference. We do not have any contingent interest in assets transferred, derivative instruments, or variable interest entities that qualify as off-balance sheet arrangements under SEC rules.

Contractual Cash Obligations

The following is a summary of our contractual cash obligations as of December 31, 2018:

		Payments by Calendar Year			
(in millions)	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Long-term debt[a]	$4,517.5	$26.0	$525.0	$1,543.2	$2,423.3
Estimated interest payments on long-term debt[b]	2,342.3	209.5	411.0	345.1	1,376.7
Operating leases	324.6	97.5	131.5	64.7	30.9
Purchase commitments[c]	5,745.6	2,586.5	1,084.6	636.6	1,437.9
Pension and postretirement liabilities[d]	440.1	9.5	93.6	96.5	240.5
Total contractual cash obligations	$13,370.1	$2,929.0	$2,245.7	$2,686.1	$5,509.3

(a) Long-term debt primarily consists of unsecured notes, capital leases, unsecured debentures and secured notes.
(b) Based on interest rates and debt balances as of December 31, 2018.
(c) Based on prevailing market prices as of December 31, 2018. The majority of value of items more than 5 years is related to our CF Ammonia Supply Agreement. For additional information related to our purchase commitments, see Note 21 of our Notes to Consolidated Financial Statements.
(d) The 2019 pension plan payments are based on minimum funding requirements. For years thereafter, pension plan payments are based on expected benefits paid. The postretirement plan payments are based on projected benefit payments. The above amounts include our North America and Brazil plans.

In addition to the above, we are contractually obligated to fund our investment in MWSPC by approximately $70 million, if needed.

Other Commercial Commitments

The following is a summary of our other commercial commitments as of December 31, 2018:

		Commitment Expiration by Calendar Year			
(in millions)	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Letters of credit	$68.7	$68.7	$ —	$ —	$ —
Surety bonds	497.7	497.7	—	—	—
Total	$566.4	$566.4	$ —	$ —	$ —

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The surety bonds and letters of credit generally expire within one year or less but a substantial portion of these instruments provide financial assurance for continuing obligations and, therefore, in most cases, must be renewed on an annual basis. We issue letters of credit through our revolving credit facility and bi-lateral agreements. As of December 31, 2018, we had $14.3 million of outstanding letters of credit through our credit facility and $54.4 million outstanding through bi-lateral agreements. We primarily incur liabilities for reclamation activities in our Florida operations and for phosphogypsum management system ("Gypstack") closure in our Florida and Louisiana operations where, for permitting purposes, we must either pass a test of financial strength or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. As of December 31, 2018, we had $203.3 million in surety bonds and a $50 million letter of credit included in the amount above, outstanding for reclamation obligations, primarily related to mining in Florida, and a $233.7 million surety bond delivered to EPA as a substitute for the financial assurance provided through the Plant City Trust. The surety bonds generally require us to obtain a discharge of the bonds or to post additional collateral (typically in the form of cash or letters of credit) at the request of the issuer of the bonds.

We are subject to financial assurance requirements related to the closure and post-closure care of our Gypstacks in Florida and Louisiana. These requirements include Florida and Louisiana state financial assurance regulations, and financial assurance requirements under the terms of consent decrees that we have entered into with respect to our facilities in Florida and Louisiana. These include a consent decree (the "Plant City Consent Decree") with the Environmental Protection Agency ("EPA") and the Florida Department of Environmental Protection ("FDEP") relating to the Plant City, Florida facility we acquired as part of the CF Phosphate Assets Acquisition (the "Plant City Facility") and two separate consent decrees (collectively, the "2015 Consent Decrees") with federal and state regulators that include financial assurance requirements for the closure and post-closure care of substantially all of our Gypstacks in Florida and Louisiana, other than those acquired as part of the CF Phosphate Assets Acquisition, which are discussed separately below.

See Note 14 of our Notes to Consolidated Financial Statements for additional information relating to our financial assurance obligations, including the Plant City Consent Decree and the 2015 Consent Decrees, which information is incorporated by reference.

Currently, state financial assurance requirements in Florida and Louisiana for the closure and post-closure care of Gypstacks are, in general terms, based upon the same assumptions and associated estimated values as the AROs recognized for financial reporting purposes. For financial reporting purposes, we recognize the AROs based on the estimated future closure and post-closure costs of Gypstacks, the undiscounted value of which is approximately $1.9 billion. The value of the AROs for closure and post-closure care of Mosaic's Gypstacks, discounted to the present value based on a credit-adjusted risk-free rate, is reflected on our Consolidated Balance Sheets in the amount of approximately $578.4 million as of December 31, 2018. Compliance with the financial assurance requirements in Florida and Louisiana is generally based on the undiscounted Gypstack closure estimates.

We satisfy substantially all of our Florida, Louisiana and federal financial assurance requirements through compliance with the financial assurance requirements under the 2015 Consent Decrees, by providing third-party credit support in the form of surety bonds (including under the Plant City Consent Decree), and a financial test mechanism supported by a corporate guarantee ("Bonnie Financial Test") related to a closed Florida phosphate concentrates facility in Bartow, Florida (the "Bonnie Facility") as discussed below. We comply with our remaining state financial assurance requirements because our financial strength permits us to meet applicable financial strength tests. However, at various times we have not met the applicable financial strength tests and there can be no assurance that we will be able to meet the applicable financial strength tests in the future. In the event we do not meet either financial strength test, we could be required to seek an alternate financial strength test acceptable to state regulatory authorities or provide credit support, which may include surety bonds, letters of credit and cash escrows or trust funds. Cash escrows or trust funds would be classified as restricted cash on our Consolidated Balance Sheets. Assuming we maintain our current levels of liquidity and capital resources, we do not expect that these Florida and Louisiana requirements will have a material effect on our results of operations, liquidity or capital resources.

As part of the CF Phosphate Assets Acquisition, we assumed certain ARO related to Gypstack Closure Costs at both the Plant City Facility and the Bonnie Facility. Associated with these assets are two related financial assurance

arrangements for which we became responsible and that provided sources of funds for the estimated Gypstack Closure Costs for these facilities, pursuant to federal or state law, which the government can draw against in the event we cannot perform such closure activities. One was initially a trust (the “Plant City Trust”) established to meet the requirements under a consent decree with EPA and the FDEP with respect to RCRA compliance at Plant City that also satisfied Florida financial assurance

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requirements at that site. Beginning in September 2016, as a substitute for the financial assurance provided through the Plant City Trust, we have provided financial assurance for Plant City in the form of a surety bond delivered to EPA (the "Plant City Bond"). The amount of the Plant City Bond is $233.7 million, at December 31, 2018, which reflects our closure cost estimates at that date. The other was also a trust fund (the "Bonnie Facility Trust") established to meet the requirements under Florida financial assurance regulations that apply to the Bonnie Facility. On July 27, 2018, we received $21.0 million from the Bonnie Facility Trust by substituting the trust fund for the Bonnie Financial Test supported by a corporate guarantee as allowed by state regulations. Both financial assurance funding obligations require estimates of future expenditures that could be impacted by refinements in scope, technological developments, new information, cost inflation, changes in regulations, discount rates and the timing of activities. Under our current approach to satisfying applicable requirements, additional financial assurance would be required in the future if increases in cost estimates exceed the face amount of the Plant City Bond or the amount supported by the Bonnie Financial Test.

Other Long-Term Obligations

The following is a summary of our other long-term obligations, including Gypstacks and land reclamation, as of December 31, 2018:

(in millions)	Total	Payments by Calendar Year Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
ARO[(a)]	$2,826.1	$145.0	$258.5	$158.9	$2,263.7

(a) Represents the undiscounted estimated cash outflows required to settle the AROs. The corresponding present value of these future expenditures is $1.2 billion as of December 31, 2018, and is reflected in our accrued liabilities and other noncurrent liabilities in our Consolidated Balance Sheets.

In addition to the above, in 2014, we entered into five-year fertilizer supply agreements providing for Mosaic to supply ADM's fertilizer needs in Brazil and Paraguay.

Most of our export sales of potash crop nutrients are marketed through a North American export association, Canpotex, which funds its operations in part through third-party financing facilities. As a member, Mosaic or our subsidiaries are, subject to certain conditions and exceptions, contractually obligated to reimburse Canpotex for their pro rata share of any operating expenses or other liabilities incurred. The reimbursements are made through reductions to members' cash receipts from Canpotex.

Commitments are set forth in Note 21 of our Notes to Consolidated Financial Statements and are hereby incorporated by reference.

Income Tax Obligations

Gross uncertain tax positions as of December 31, 2018 of $38.1 million are not included in the other long-term obligations table presented above because the timing of the settlement of unrecognized tax benefits cannot be reasonably determined. For further discussion, refer to Note 13 of our Notes to Consolidated Financial Statements.

Market Risk

We are exposed to the impact of fluctuations in the relative value of currencies, fluctuations in interest rates, fluctuations in the purchase prices of natural gas, nitrogen, ammonia and sulfur consumed in operations, and changes in freight costs, as well as changes in the market value of our financial instruments. We periodically enter into derivatives in order to mitigate our interest rate risks, foreign currency risks and the effects of changing commodity prices and freight prices, but not for speculative purposes. Unrealized mark-to-market gains and losses on derivatives are recorded in Corporate, Eliminations and Other. Once realized, they are recorded in the related business segment.

Foreign Currency Exchange Rates

Due to the global nature of our operations, we are exposed to currency exchange rate changes, which may cause fluctuations in earnings and cash flows. Our primary foreign currency exposures are the Canadian dollar and Brazilian real. To reduce

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economic risk and volatility on expected cash flows that are denominated in the Canadian dollar and Brazilian real, we use financial instruments that may include forward contracts, zero-cost collars and/or futures.

The functional currency of several of our Canadian entities is the Canadian dollar. For those entities, sales are primarily denominated in U.S. dollars, but the costs are paid principally in Canadian dollars. We generally enter into derivative instruments for a portion of the currency risk exposure on anticipated cash inflows and outflows, including contractual outflows for our Potash expansion and other capital expenditures denominated in Canadian dollars. Mosaic hedges cash flows on a declining basis, up to 18 months for the Canadian dollar. Starting in 2018, we entered into hedges up to 36 months for expected Canadian dollar capital expenditures related to our Esterhazy K3 expansion program. A stronger Canadian dollar generally reduces these entities' operating earnings. A weaker Canadian dollar has the opposite effect. Depending on the underlying exposure, such derivatives can create additional earnings volatility because we do not apply hedge accounting. Gains or losses on these derivative contracts, both for open contracts at quarter-end (unrealized) and settled contracts (realized), are recorded in either cost of goods sold or foreign currency transaction gain (loss).

The functional currency for our Brazilian subsidiaries is the Brazilian real. We finance our Brazilian inventory purchases with U.S. dollar-denominated liabilities. We hedge cash flows on a declining basis, up to 12 months for the Brazilian real. Due to the Acquisition, our exposure to the Brazilian real has increased and, as a result, the amount of foreign derivatives that we have entered into related to the Brazilian real has increased. A stronger Brazilian real relative to the U.S. dollar has the impact of reducing these liabilities on a functional currency basis. When this occurs, an associated foreign currency transaction gain is recorded as non-operating income. A weaker Brazilian real generally has the opposite effect. We also enter into derivative instruments for a portion of our currency risk exposure on anticipated cash flows, and record an associated gain or loss in the foreign currency transaction gain (loss) line in the Consolidated Statements of Earnings. A stronger Brazilian real generally reduces our Brazilian subsidiaries operating earnings. A weaker Brazilian real has the opposite effect.

As discussed above, we have Canadian dollar, Brazilian real, and other foreign currency exchange contracts. As of December 31, 2018, and 2017, the fair value of our major foreign currency exchange contracts were ($49.1) million and $9.4 million, respectively. We recorded an unrealized loss of $31.4 million in cost of goods sold and recorded an unrealized loss of $25.6 million in foreign currency transaction gain (loss) in the Consolidated Statements of Earnings for 2018.

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The table below provides information about Mosaic's significant foreign exchange derivatives.

	As of December 31, 2018				As of December 31, 2017		
	Expected Maturity Date Years ending December 31,			Fair Value	Expected Maturity Date Years ending December 31,		Fair Value
(in millions)	2019	2020	2021		2018	2019	
Foreign Currency Exchange Forwards							
Canadian Dollar				$(40.7)			$12.3
Notional (million US$) - long Canadian dollars	$651.3	$170.1	$138.2		$444.4	$39.1	
Weighted Average Rate - Canadian dollar to U.S. dollar	1.2989	1.2877	1.3025		1.2850	1.2791	
Foreign Currency Exchange Non-Deliverable Forwards							
Brazilian Real				$(2.5)			$1.3
Notional (million US$) - short Brazilian real	$535.1	$—	$—		$174.9	$—	
Weighted Average Rate - Brazilian real to U.S. dollar	3.8385	—	—		3.3001	—	
Notional (million US$) - long Brazilian real	$459.1	$—	$—		$174.9	$—	
Weighted Average Rate - Brazilian real to U.S. dollar	3.8333	—	—		3.3414	—	
Indian Rupee				$(5.9)			$(4.2)
Notional (million US$) - short Indian rupee	$137.9	$—	$—		$196.0	$—	
Weighted Average Rate - Indian rupee to U.S. dollar	73.0517	—	—		65.8215	—	
Total Fair Value				$(49.1)			$9.4

Commodities

We use forward purchase contracts, swaps and occasionally three-way collars to reduce the risk related to significant price changes in our inputs and product prices. In addition, the natural gas-based pricing under the CF Ammonia Supply Agreement is intended to lessen ammonia pricing volatility.

All gains and losses on commodities contracts are recorded in cost of goods sold in the Consolidated Statements of Earnings.

As of December 31, 2018, and 2017, the fair value of our major commodities contracts were ($17.0) million and ($17.6) million, respectively. We recorded an unrealized loss of $1.2 million in cost of goods sold on the Consolidated Statements of Earnings in 2018.

Our primary commodities exposure relates to price changes in natural gas.

The table below provides information about Mosaic's natural gas derivatives which are used to manage the risk related to significant price changes in natural gas.

	As of December 31, 2018					As of December 31, 2017			
	Expected Maturity Date Years ending December 31,				Fair Value	Expected Maturity Date Years ending December 31,			Fair Value
(in millions)	2019	2020	2021	2022		2018	2019	2020	
Natural Gas Swaps					$(17.0)				$(17.6)
Notional (million MMBtu) - long	20.4	15.8	13.2	2.9		18.2	19.9	5.0	
Weighted Average Rate (US$/MMBtu)	$2.22	$1.92	$1.73	$1.47		$3.16	$3.01	$3.14	
Total Fair Value					$(17.0)				$(17.6)

Interest Rates

We manage interest expense through interest rate contracts to convert a portion of our fixed-rate debt into floating-rate debt. From time to time, we also enter into interest rate swap agreements to hedge our exposure to changes in future interest rates related to anticipated debt issuances. As of December 31, 2018, and 2017, the fair value of our interest rate contracts was ($9.5) million and ($2.2) million, respectively. We recorded an unrealized gain of $0.7 million in interest expense on the Consolidated Statements of Earnings for 2018.

Summary

Overall, there have been no material changes in our primary market risk exposures since the prior year. In 2019, we do not expect any material changes in our primary risk exposures. Additional information about market risk associated with our investments held in the RCRA Trusts is provided in Note 12 of our Notes to Consolidated Financial Statements. For additional information related to derivatives, see Notes 15 and 16 of our Notes to Consolidated Financial Statements.

Environmental, Health, Safety and Security Matters

We are subject to an evolving complex of international, federal, state, provincial and local environmental, health, safety and security ("EHS") laws that govern the production, distribution and use of crop nutrients and animal feed ingredients. These EHS laws regulate or propose to regulate: (i) conduct of mining, production and supply chain operations, including employee safety and facility security procedures; (ii) management and/or remediation of potential impacts to air, soil and water quality from our operations; (iii) disposal of waste materials; (iv) reclamation of lands after mining; (v) management and handling of raw materials; (vi) product content; and (vii) use of products by both us and our customers.

We have a comprehensive EHS management program that seeks to achieve sustainable, predictable and verifiable EHS performance. Key elements of our EHS program include: (i) identifying and managing EHS risk; (ii) complying with legal requirements; (iii) improving our EHS procedures and protocols; (iv) educating employees regarding EHS obligations; (v) retaining and developing professional qualified EHS staff; (vi) evaluating facility conditions; (vii) evaluating and enhancing safe workplace behaviors; (viii) performing audits; (ix) formulating EHS action plans; and (x) assuring accountability of all managers and other employees for EHS performance. Our business units are responsible for implementing day-to-day elements of our EHS program, assisted by an integrated staff of EHS professionals. We conduct audits to verify that each facility has identified risks, achieved regulatory compliance, implemented continuous EHS improvement, and incorporated EHS management systems into day-to-day business functions.

New or proposed regulatory programs can present significant challenges in ascertaining future compliance obligations, implementing compliance plans, and estimating future costs until implementing regulations have been finalized and definitive regulatory interpretations have been adopted. New or proposed regulatory requirements may require modifications to our facilities or to operating procedures and these modifications may involve significant capital costs or increases in operating costs.

We have expended, and anticipate that we will continue to expend, substantial financial and managerial resources to comply with EHS standards and to continue to improve our environmental stewardship. In 2019, excluding capital expenditures arising out of the consent decrees referred to under "EPA RCRA Initiative" in Note 14 of our Notes to Consolidated Financial Statements, we expect environmental capital expenditures to total approximately $200 million,

primarily related to: (i) modification or construction of waste management infrastructure and water treatment systems; (ii) construction and

modification projects associated with Gypstacks and clay settling ponds at our Phosphates facilities and tailings management areas for our Potash mining and processing facilities; (iii) upgrading or new construction of air pollution control equipment at some of the concentrates plants; and (iv) capital projects associated with remediation of contamination at current or former operations. Additional expenditures for land reclamation, Gypstack closure and water treatment activities are expected to total approximately $140 million in 2019. In 2020, we estimate environmental capital expenditures will be approximately $190 million and expenditures for land reclamation activities, Gypstack closure and water treatment activities are expected to be approximately $120 million. In the years ended December 31, 2018 and 2017, we spent approximately $350 million and $280 million, respectively, for environmental capital expenditures, land reclamation activities, Gypstack closure and water treatment activities. No assurance can be given that greater-than-anticipated EHS capital expenditures or land reclamation, Gypstack closure or water treatment expenditures will not be required in 2019 or in the future.

Operating Requirements and Impacts

Permitting. We hold numerous environmental, mining and other permits and approvals authorizing operations at each of our facilities. Our ability to continue operations at a facility could be materially affected by a government agency decision to deny or delay issuing a new or renewed permit or approval, to revoke or substantially modify an existing permit or approval or to substantially change conditions applicable to a permit modification, or by legal actions that successfully challenge our permits.

Expanding our operations or extending operations into new areas is also predicated upon securing the necessary environmental or other permits or approvals. We have been engaged in, and over the next several years will be continuing, efforts to obtain permits in support of our anticipated Florida mining operations at certain of our properties. For years, we have successfully permitted mining properties and anticipate that we will be able to permit these properties as well.

A denial of our permits, the issuance of permits with cost-prohibitive conditions, substantial delays in issuing key permits, legal actions that prevent us from relying on permits or revocation of permits can prevent or delay our mining at the affected properties and thereby materially affect our business, results of operations, liquidity or financial condition.

In addition, in Florida, local community involvement has become an increasingly important factor in the permitting process for mining companies, and various counties and other parties in Florida have in the past filed and continue to file lawsuits challenging the issuance of some of the permits we require. These actions can significantly delay permit issuance. Additional information regarding certain potential or pending permit challenges is provided in Note 22 to our Consolidated Financial Statements and is incorporated herein by reference.

Waters of the United States. In June 2015, EPA and the U.S. Army Corps of Engineers (the “Corps”) jointly issued a final rule that proposed to clarify but may actually expand the scope of waters regulated under the federal Clean Water Act. The final rule (the “2015 Clean Water Rule”) became effective in August 2015, but has been challenged through numerous lawsuits. In October 2015, the U.S. Court of Appeals for the Sixth Circuit issued an order staying the effectiveness of the final rule nationwide pending adjudication of substantive challenges to the rule. In early 2017, the U.S. President issued an Executive Order directing EPA and the Corps to publish a proposed rule rescinding or revising the new rule, and in June 2017 EPA and the Corps issued a proposed rule that would rescind the 2015 Clean Water Rule and re-codify regulatory text that existed prior to enactment of the 2015 Clean Water Rule. In November 2017, EPA issued a rule notice proposing to extend the applicability date of the 2015 Clean Water Rule for two years from the date of final action on the proposed rule, to provide continuity and regulatory certainty while agencies proceed to consider potential changes to the 2015 Clean Water Rule.

In January 2018, the U.S. Supreme Court unanimously held all challenges to the 2015 Clean Water Rule must be heard in federal district courts rather than in the federal courts of appeal, overruling a decision by the Sixth Circuit Court of Appeals. With the Sixth Circuit Court of Appeals no longer having jurisdiction, that court lifted its 2015 nationwide stay in February 2018. After the nationwide stay was lifted, a number of U.S. District Courts revived dormant litigation that challenged the 2015 Clean Water Rule. In June 2018, the U.S. District Court for the Southern District of Georgia entered an injunction against implementation of the 2015 Clean Water Rule covering 11 states, including Florida. As of September 18, 2018, federal district courts have put the 2015 Clean Water Rule on hold in 28

states. The 2015 Clean Water Rule is now in effect in 22 states, the District of Columbia, and the U.S. territories.
On December 11, 2018, the EPA and Corps issued a proposed new Clean Water Rule designed to replace the 2015 Clean Water Rule. The agencies' proposed rule is intended to provide clarity, predictability and consistency so that the regulated community can better understand where the Clean Water Act applies - and where it does not.

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We believe the 2015 Clean Water Rule, if not rescinded, or replaced by the proposed rule issued on December 11, 2018, may expand the types and extent of land and water resources regulated under federal law, thereby potentially expanding our permitting and reporting requirements, increasing our costs of compliance, including costs associated with wetlands and stream mitigation, lengthening the time necessary to obtain permits, and potentially restricting our ability to mine certain of our phosphate rock reserves.

Water Quality Regulations for Nutrient Discharges. New nutrient regulatory initiatives could have a material effect on either us or our customers. For example, the Gulf Coast Ecosystem Restoration Task Force, established by executive order of the President and comprised of five Gulf States and eleven federal agencies, has delivered a final strategy for long-term ecosystem restoration for the Gulf Coast. The strategy calls for, among other matters, reduction of the flow of excess nutrients into the Gulf of Mexico through state nutrient reduction frameworks, new nutrient reduction approaches and reduction of agricultural and urban sources of excess nutrients. Implementation of the strategy will require legislative or regulatory action at the state level. We cannot predict what the requirements of any such legislative or regulatory action could be or whether or how it would affect us or our customers.

Reclamation Obligations. During our phosphate mining operations, we remove overburden in order to retrieve phosphate rock reserves. Once we have finished mining in an area, we use the overburden and sand tailings produced by the beneficiation process to reclaim the area in accordance with approved reclamation plans and applicable laws. We have incurred and will continue to incur significant costs to fulfill our reclamation obligations.

Management of Residual Materials and Closure of Management Areas. Mining and processing of potash and phosphate generate residual materials that must be managed both during the operation of the facility and upon facility closure. Potash tailings, consisting primarily of salt and clay, are stored in surface disposal sites. Phosphate clay residuals from mining are deposited in clay settling ponds. Processing of phosphate rock with sulfuric acid generates phosphogypsum that is stored in Gypstacks.

During the life of the tailings management areas, clay settling ponds and Gypstacks, we have incurred and will continue to incur significant costs to manage our potash and phosphate residual materials in accordance with environmental laws and regulations and with permit requirements. Additional legal and permit requirements will take effect when these facilities are closed. Our asset retirement obligations are further discussed in Note 14 of our Notes to Consolidated Financial Statements.

New Wales Water Loss Incident. In August 2016, a sinkhole developed under one of the two cells of the active Gypstack at our New Wales facility in Polk County, Florida, resulting in process water from the stack draining into the sinkhole. The incident was reported to the FDEP and EPA and in connection with the incident, our subsidiary, Mosaic Fertilizer, LLC (“Mosaic Fertilizer”), entered into a consent order (the “Order”) with the FDEP in October 2016 under which Mosaic Fertilizer agreed to, among other things, implement an approved remediation plan to close the sinkhole; perform additional water monitoring and if necessary, assessment and rehabilitation activities in the event of identified off-site impacts; provide financial assurance; and evaluate the risk of potential future sinkhole formation at our active Florida Gypstack operations. The incident and the Order are further discussed in Note 22 of our Notes to Consolidated Financial Statements.

Financial Assurance. Separate from our accounting treatment for reclamation and closure liabilities, some jurisdictions in which we operate have required us either to pass a test of financial strength or provide credit support, typically cash deposits, surety bonds, financial guarantees or letters of credit, to address phosphate mining reclamation liabilities and closure liabilities for clay settling areas and Gypstacks. See “Other Commercial Commitments” under “Off-Balance Sheet Arrangements and Obligations” above for additional information about these requirements. We also have obligations under certain consent decrees and a separate financial assurance arrangement relating to our facilities in Florida and Louisiana. Two consent decrees that became effective in 2016 resolved claims under the U.S. Resource Conservation and Recovery Act and state hazardous waste laws relating to our management of certain waste materials onsite at certain fertilizer manufacturing facilities in Florida and Louisiana. Under these consent decrees, in 2016 we deposited $630 million in cash into two trust funds to provide additional financial assurance for the estimated costs of closure and post-closure care of our phosphogypsum management systems. In addition, in 2017, we issued a letter of credit in the amount of $50 million to further support our financial assurance obligation under the Florida 2015 Consent Decree. While our actual Gypstack Closure Costs are generally expected to be paid by us in the normal

course of our Phosphates business over a period that may not end until three decades or more after a Gypstack has been closed, the funds on deposit in the RCRA Trusts can be drawn by the applicable governmental authority in the event we cannot perform our closure and long term care obligations. If and when our estimated Gypstack Closure Costs with respect to the facilities associated with a RCRA Trust are sufficiently lower than the amount on deposit in that RCRA Trust, we have the right to request that the excess funds be released to us. The same is

true for the RCRA Trust balance remaining after the completion of our obligations, which will be performed over a period that may not end until three decades or more after a Gypstack has been closed. See the discussion under "EPA RCRA Initiative" in Note 14 of our Notes to Consolidated Financial Statements for additional information about these matters.

We have accepted a proposal by the Province of Saskatchewan under which we would establish a trust valued at $25 million (Canadian dollars) in satisfaction of financial assurance requirements for closure of our Saskatchewan potash facilities. The trust is to be fully funded by us by 2021 in equal annual installments which began in July 2014.

In January 2017, proposed rules were issued under the U.S. Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as CERCLA or the Superfund law, that would require owners and operators of certain classes of hardrock mines and mineral processing facilities to demonstrate financial ability to cover potential costs of future cleanup efforts for their operations and costs of health assessments and natural resource damage. As proposed, the rules would apply to phosphate mining, phosphate fertilizer manufacturing and potash mining operations. In December 2017, EPA issued the final rule for hardrock mining, concluding that no financial assurance under CERCLA was required for the sector. Supporters of financial responsibility for hardrock mines and mineral processing facilities may challenge that rule. EPA has announced it will undertake similar rulemaking in phases for three additional sectors, including chemical manufacturing. We cannot predict at this time when EPA will issue proposed rules or what, if any, financial assurance requirements may ultimately be developed or required for our operations. Accordingly, we cannot predict the prospective impact of any such financial responsibility requirements on our results of operations, liquidity or capital resources, or whether any such effects could be material to us.

Climate Change

We are committed to finding ways to meet the challenges of crop nutrient and animal feed ingredient production and distribution in the context of the need to reduce greenhouse gas emissions. While focused on helping the world grow the food it needs, we have proven our commitment to using our resources more efficiently and have implemented innovative energy recovery technologies that result in our generation of much of the energy we need, particularly in our U.S. Phosphates operations, from high efficiency heat recovery systems that result in lower greenhouse gas emissions.

Climate Change Regulation. Various governmental initiatives to limit greenhouse gas emissions are under way or under consideration around the world. These initiatives could restrict our operating activities, require us to make changes in our operating activities that would increase our operating costs, reduce our efficiency or limit our output, require us to make capital improvements to our facilities, increase our energy, raw material and transportation costs or limit their availability, or otherwise adversely affect our results of operations, liquidity or capital resources, and these effects could be material to us.

The direct greenhouse gas emissions from our operations result primarily from:

- Combustion of natural gas to produce steam and dry potash products at our Belle Plaine, Saskatchewan, potash solution mine. To a lesser extent, at our potash shaft mines, natural gas is used as a fuel to heat fresh air supplied to the shaft mines and for drying potash products.
- The use of natural gas as a feedstock in the production of ammonia at our Faustina, Louisiana phosphates plant.
- Process reactions from naturally occurring carbonates in phosphate rock.

In addition, the production of energy and raw materials that we purchase from unrelated parties for use in our business and energy used in the transportation of our products and raw materials are sources of greenhouse gas emissions.

Governmental greenhouse gas emission initiatives include, among others, the December 2015 agreement (the "Paris Agreement") which was the outcome of the 21st session of the Conference of the Parties under the United Nations Framework Convention on Climate Change. The Paris Agreement, which was signed by nearly 200 nations including the United States and Canada, entered into force in late 2016 and sets out a goal of limiting the average rise in temperatures for this century to below 2 degrees Celsius. Each signatory is expected to develop its own plan (referred to as a Nationally Determined Contribution, or "NDC") for reaching that goal.

In May 2017, the U.S. President announced that the United States would withdraw from the Paris Agreement. Under Article 28 of that agreement, the earliest such a withdrawal could be effective is November 2020. In 2015, prior to this announcement, the United States had submitted an NDC aiming to achieve, by 2025, an economy-wide target of

reducing greenhouse gas emissions by 26-28% below its 2005 level. The NDC also aims to use best efforts to reduce emissions by 28%. The U.S. target covers all greenhouse gases that were a part of the 2014 Inventory of Greenhouse Gas Emissions and

Sinks. While it is unclear whether the U.S. executive administration will proceed to withdraw from the Paris Agreement, various legislative or regulatory initiatives relating to greenhouse gases have been adopted or considered by the U.S. Congress, EPA or various states and those initiatives already adopted may be used to implement the U.S. NDC. Additionally, more stringent laws and regulations may be enacted to accomplish the goals set out in the NDC. Canada's intended NDC aims to achieve, by 2030, an economy-wide target of reducing greenhouse gas emissions by 30% below 2005 levels. In late 2016, the federal government announced plans for a comprehensive tax on carbon emissions, under which provinces opting out of the tax would have the option of adopting a cap-and-trade system. In the plans, the federal government also committed to implementing a federal carbon pricing backstop system that will apply in any province or territory that does not have a carbon pricing system in place by 2018. As of January 1, 2019, a carbon tax of $20 per tonne now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. In addition, the Province of Saskatchewan, in which our Canadian potash mines are located, has stated that a carbon pricing system will not be implemented in the province and that legal action will be sought against the federal government. In December 2017, Saskatchewan announced a comprehensive plan to address climate change that does not include an economy-wide price on carbon but does include a system of tariffs and credits for large emitters. The plan was reviewed and approved, in part, by the federal government in October 2018. Our Saskatchewan Potash facilities will be subject to the Saskatchewan climate change plan regarding emissions at our facilities; however, indirect costs from the carbon tax associated with electricity, natural gas consumption, and transportation may be passed through to Mosaic. As implementation of the Paris Agreement proceeds, more stringent laws and regulations may be enacted to accomplish the goals set out in Canada's NDC, such as the Clean Fuel Standard, which is now under development in Ottawa. We will also continue to monitor developments relating to the anticipated legislation, as well as the potential future effect on our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources.

It is possible that future legislation or regulation addressing climate change, including in response to the Paris Agreement or any new international agreements, could adversely affect our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources, and these effects could be material or adversely impact our competitive advantage. In addition, to the extent climate change restrictions imposed in countries where our competitors operate, such as China, India, Former Soviet Union countries or Morocco, are less stringent than in the United States or Canada, our competitors could gain cost or other competitive advantages over us.

Operating Impacts Due to Climate Change. The prospective impact of climate change on our operations and those of our customers and farmers remains uncertain. Scientists have hypothesized that the impacts of climate change could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels and that these changes could be severe. These impacts could vary by geographic location. Severe climate change could impact our costs and operating activities, the location and cost of global grain and oilseed production, and the supply and demand for grains and oilseeds. At the present time, we cannot predict the prospective impact of climate change on our results of operations, liquidity or capital resources, or whether any such effects could be material to us.

Remedial Activities

CERCLA (aka Superfund) and state analogues impose liability, without regard to fault or to the legality of a party's conduct, on certain categories of persons, including those who have disposed of "hazardous substances" at a third-party location. Under Superfund, or its various state analogues, one party may be responsible for the entire site, regardless of fault or the locality of its disposal activity. We have contingent environmental remedial liabilities that arise principally from three sources which are further discussed below: (i) facilities currently or formerly owned by our subsidiaries or their predecessors; (ii) facilities adjacent to currently or formerly owned facilities; and (iii) third-party Superfund or state equivalent sites where we are alleged to have disposed of hazardous materials. Taking into consideration established accruals for environmental remedial matters of approximately $58.6 million as of December 31, 2018, expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material effect on our business or financial condition. However, material expenditures could be required in the future to remediate the contamination at known sites or at other current or former sites.

Remediation at Our Facilities. Many of our formerly owned or current facilities have been in operation for a number of years. The historical use and handling of regulated chemical substances, crop and animal nutrients and additives as well as by-product or process tailings at these facilities by us and predecessor operators have resulted in soil, surface water and groundwater impacts.

At many of these facilities, spills or other releases of regulated substances have occurred previously and potentially could occur in the future, possibly requiring us to undertake or fund cleanup efforts under Superfund or otherwise. In some instances, we have agreed, pursuant to consent orders or agreements with the appropriate governmental agencies, to undertake certain investigations, which currently are in progress, to determine whether remedial action may be required to address site impacts. At other locations, we have entered into consent orders or agreements with appropriate governmental agencies to perform required remedial activities that will address identified site conditions. Taking into account established accruals, future expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material adverse effect on our business or financial condition. However, material expenditures by us could be required in the future to remediate the environmental impacts at these or at other current or former sites.

Remediation at Third-Party Facilities. Various third parties have alleged that our historical operations have impacted neighboring off-site areas or nearby third-party facilities. In some instances, we have agreed, pursuant to orders from or agreements with appropriate governmental agencies or agreements with private parties, to undertake or fund investigations, some of which currently are in progress, to determine whether remedial action, under Superfund or otherwise, may be required to address off-site impacts. Our remedial liability at these sites, either alone or in the aggregate, taking into account established accruals, currently is not expected to have a material adverse effect on our business or financial condition. As more information is obtained regarding these sites, this expectation could change.

Liability for Off-Site Disposal Locations. Currently, we are involved or concluding involvement for off-site disposal at several Superfund or equivalent state sites. Moreover, we previously have entered into settlements to resolve liability with regard to Superfund or equivalent state sites. In some cases, such settlements have included “reopeners,” which could result in additional liability at such sites in the event of newly discovered contamination or other circumstances. Our remedial liability at such disposal sites, either alone or in the aggregate, currently is not expected to have a material adverse effect on our business or financial condition. As more information is obtained regarding these sites and the potentially responsible parties involved, this expectation could change.

Product Requirements and Impacts

International, federal, state and provincial standards require us to register many of our products before these products can be sold. The standards also impose labeling requirements on these products and require us to manufacture the products to formulations set forth on the labels. We believe that, when handled and used as intended, based on the available data, crop nutrient materials do not pose harm to human health or the environment and that any additional standards or regulatory requirements relating to product requirements and impacts will not have a material adverse effect on our business or financial condition.

Additional Information

For additional information about phosphate mine permitting in Florida, our environmental liabilities, the environmental proceedings in which we are involved, our asset retirement obligations related to environmental matters, and our related accounting policies, see Environmental Liabilities and AROs under Critical Accounting Estimates above and Notes 2, 14, and 22 of our Notes to Consolidated Financial Statements.

Sustainability

We are committed to making informed choices that improve our corporate governance, financial strength, operational efficiency, environmental stewardship, community engagement and resource management. Through these efforts, we intend to sustain our business and experience lasting success.

We have included, or incorporate by reference, throughout this annual report on Form 10-K discussions of various matters relating to our sustainability, in its broadest sense, that we believe may be material to our investors. These matters include, but are not limited to, discussions about: corporate governance, including the leadership and respective roles of our Board of Directors and its committees, and management; recent and prospective developments in our business; product development; risk, enterprise risk management and risk oversight; the regulatory and permitting environment for our business and ongoing regulatory and permitting initiatives; executive compensation practices; employee and contractor safety; and other EHS matters including climate change, water management, energy and other operational efficiency initiatives, reclamation and asset retirement obligations. Other matters relating to sustainability are included in our sustainability reports that are available on our website at

www.mosaicco.com/sustainability. Our sustainability reports are not incorporated by reference in this annual report on Form 10-K.

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Contingencies

Information regarding contingencies in Note 22 of our Notes to Consolidated Financial Statements is incorporated herein by reference.

Related Parties

Information regarding related party transactions is set forth in Note 23 of our Notes to Consolidated Financial Statements and is incorporated herein by reference.

Recently Issued Accounting Guidance

Recently issued accounting guidance is set forth in Note 3 of our Notes to Consolidated Financial Statements and is incorporated herein by reference.

Forward-Looking Statements

Cautionary Statement Regarding Forward Looking Information

All statements, other than statements of historical fact, appearing in this report constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These statements include, among other things, statements about our expectations, beliefs, intentions or strategies for the future, including statements about our recently completed Acquisition and the anticipated benefits and synergies of the Acquisition, statements about MWSPC and its nature, impact and benefits, statements about other proposed or pending future transactions or strategic plans, statements concerning our future operations, financial condition and prospects, statements regarding our expectations for capital expenditures, statements concerning our level of indebtedness and other information, and any statements of assumptions regarding any of the foregoing. In particular, forward-looking statements may include words such as "anticipate", "believe", "could", "estimate", "expect", "intend", "may", "potential", "predict", "project" or "should". These statements involve certain risks and uncertainties that may cause actual results to differ materially from expectations as of the date of this filing.

Factors that could cause reported results to differ materially from those expressed or implied by the forward-looking statements include, but are not limited to, the following:

- difficulties with realization of the benefits of the Acquisition, including the risks that the Acquired Business may not be integrated successfully,
- the anticipated synergies or cost or capital expenditure savings from the Acquisition may not be fully realized or may take longer to realize than expected,
- because of political and economic instability in Brazil or changes in government policy in Brazil, our operations could be disrupted as higher costs of doing business could result, including those associated with implementation of new freight tables and new mining legislation;
- business and economic conditions and governmental policies affecting the agricultural industry where we or our customers operate, including price and demand volatility resulting from periodic imbalances of supply and demand;
- changes in farmers’ application rates for crop nutrients;
- changes in the operation of world phosphate or potash markets, including continuing consolidation in the crop nutrient industry, particularly if we do not participate in the consolidation;
- the expansion or contraction of production capacity or selling efforts by competitors or new entrants in the industries in which we operate, including the effects of actions by members of Canpotex to prove the production capacity of potash expansion projects, through proving runs or otherwise;
- the expected cost of MWSPC and our expected remaining investment to be made in it, the amount, terms, availability and sufficiency of funding for MWSPC from us, Saudi Arabian Mining Company and Saudi Basic Industries Corporation and existing or future external sources, the timely development and commencement of operations of production facilities in the Kingdom of Saudi Arabia, political and economic instability in the region, and in general the future success of current plans for the joint venture and any future changes in those plans;

- build-up of inventories in the distribution channels for our products that can adversely affect our sales volumes and selling prices;
- the effect of future product innovations or development of new technologies on demand for our products;
- seasonality in our business that results in the need to carry significant amounts of inventory and seasonal peaks in working capital requirements, and may result in excess inventory or product shortages;
- changes in the costs, or constraints on supplies, of raw materials or energy used in manufacturing our products, or in the costs or availability of transportation for our products;
- declines in our selling prices or significant increases in costs that can require us to write down our inventories to the lower of cost or market, or require us to impair goodwill or other long-lived assets, or establish a valuation allowance against deferred tax assets;
- the effects on our customers of holding high cost inventories of crop nutrients in periods of rapidly declining market prices for crop nutrients;
- the lag in realizing the benefit of falling market prices for the raw materials we use to produce our products that can occur while we consume raw materials that we purchased or committed to purchase in the past at higher prices;
- customer expectations about future trends in the selling prices and availability of our products and in farmer economics;
- disruptions to existing transportation or terminaling facilities, including those of Canpotex or any joint venture in which we participate;
- shortages or other unavailability of railcars, tugs, barges and ships for carrying our products and raw materials;
- the effects of and change in trade, monetary, environmental, tax and fiscal policies, laws and regulations;
- foreign exchange rates and fluctuations in those rates;
- tax regulations, currency exchange controls and other restrictions that may affect our ability to optimize the use of our liquidity;
- other risks associated with our international operations, including any potential adverse effects related to the Miski Mayo mine in the event that protests against natural resource companies in Peru were to extend to or impact the Miski Mayo mine;
- adverse weather conditions affecting our operations, including the impact of potential hurricanes, excessive heat, cold, snow or rainfall, or drought;
- difficulties or delays in receiving, challenges to, increased costs of obtaining or satisfying conditions of, or revocation or withdrawal of required governmental and regulatory approvals, including permitting activities;
- changes in the environmental and other governmental regulation that applies to our operations, including federal legislation or regulatory action expanding the types and extent of water resources regulated under federal law and the possibility of further federal or state legislation or regulatory action affecting or related to greenhouse gas emissions, including carbon taxes or other measures that may be implemented in Canada or other jurisdictions in which we operate, or of restrictions or liabilities related to elevated levels of naturally-occurring radiation that arise from disturbing the ground in the course of mining activities or possible efforts to reduce the flow of nutrients into the Gulf of Mexico, the Mississippi River basin or elsewhere;
- the potential costs and effects of implementation of federal or state water quality standards for the discharge of nitrogen and/or phosphorus into Florida waterways;
- the financial resources of our competitors, including state-owned and government-subsidized entities in other countries;
- the possibility of defaults by our customers on trade credit that we extend to them or on indebtedness that they incur to purchase our products and that we guarantee, particularly when we are exiting our business operations or locations that produced or sold the products to that customer;
- any significant reduction in customers’ liquidity or access to credit that they need to purchase our products;

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- the effectiveness of the processes we put in place to manage our significant strategic priorities, including the expansion of our Potash business and our investment in MWSPC, and to successfully integrate and grow acquired businesses;
- actual costs of various items differing from management's current estimates, including, among others, asset retirement, environmental remediation, reclamation or other environmental obligations and Canadian resource taxes and royalties, or the costs of MWSPC, its existing or future funding and our commitments in support of such funding;
- the costs and effects of legal and administrative proceedings and regulatory matters affecting us, including environmental, tax or administrative proceedings, complaints that our operations are adversely impacting nearby farms, businesses, other property uses or properties, settlements thereof and actions taken by courts with respect to approvals of settlements, costs related to defending and resolving global audit, appeal or court activity, and other, and other further developments in legal proceedings and regulatory matters;
- the success of our efforts to attract and retain highly qualified and motivated employees;
- strikes, labor stoppages or slowdowns by our work force or increased costs resulting from unsuccessful labor contract negotiations, and the potential costs and effects of compliance with new regulations affecting our workforce, which increasingly focus on wages and hours, healthcare, retirement and other employee benefits;
- brine inflows at our Esterhazy, Saskatchewan potash mine as well as potential inflows at our other shaft mines;
- accidents or other incidents involving our properties or operations, including potential fires, explosions, seismic events, sinkholes, unsuccessful tailings management, ineffective mine safety procedures, or releases of hazardous or volatile chemicals;
- terrorism or other malicious intentional acts, including cybersecurity risks such as attempts to gain unauthorized access to, or disable, our information technology systems, or our costs of addressing malicious intentional acts;
- other disruptions of operations at any of our key production and distribution facilities, particularly when they are operating at high operating rates;
- changes in antitrust and competition laws or their enforcement;
- actions by the holders of controlling equity interests in businesses in which we hold a noncontrolling interest;
- changes in our relationships with other members of Canpotex or any joint venture in which we participate or their or our exit from participation in Canpotex or any such export association or joint venture, and other changes in our commercial arrangements with unrelated third parties;
- the adequacy of our property, business interruption and casualty insurance policies to cover potential hazards and risks incident to our business, and our willingness and ability to maintain current levels of insurance coverage as a result of market conditions, our loss experience and other factors;
- difficulties in realizing benefits under our long-term natural gas based pricing ammonia supply agreement with CF Industries, Inc., including the risks that the cost savings initially anticipated from the agreement may not be fully realized over the term of the agreement or that the price of natural gas or the market price for ammonia during the agreement's term are at levels at which the agreement's natural gas based pricing is disadvantageous to us, compared with purchases in the spot market; and
- other risk factors reported from time to time in our Securities and Exchange Commission reports.

Material uncertainties and other factors known to us are discussed in Item 1A, "Risk Factors," of our annual report on Form 10-K for the year ended December 31, 2018 and incorporated by reference herein as if fully stated herein.

We base our forward-looking statements on information currently available to us, and we undertake no obligation to update or revise any of these statements, whether as a result of changes in underlying factors, new information, future events or other developments.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
The Mosaic Company:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of The Mosaic Company and subsidiaries (the “Company”) as of December 31, 2018 and 2017, the related consolidated statements of earnings, comprehensive income, cash flows, and equity for each of the years in the three year period ended December 31, 2018, and the related notes and Schedule II-Valuation and Qualifying Accounts (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 12, 2019 expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

Our report dated March 12, 2019 on internal control over financial reporting as of December 31, 2018, contains an explanatory paragraph that states management excluded from its assessment of the effectiveness of internal control over financial reporting as of December 31, 2018, Mosaic Fertilizantes P&K S.A.’s internal control over financial reporting associated with total assets of $3.3 billion and total net sales of $1.3 billion included in the consolidated financial statements of the Company as of and for the year ended December 31, 2018. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the newly acquired business.

Change in Accounting Principle

As discussed in Note 3 to the consolidated financial statements, effective January 1, 2018, the Company adopted Accounting Standards Update (ASU) 2014-09, Revenue from Contracts with Customers, and several related amendments, as issued by the Financial Accounting Standards Board (FASB). This change was adopted using the modified retrospective method.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company’s auditor since 2004.
Minneapolis, Minnesota
March 12, 2019

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Report of Independent Registered Public Accounting Firm
To the Stockholders and Board of Directors
The Mosaic Company:

Opinion on Internal Control Over Financial Reporting

We have audited The Mosaic Company's and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes and Schedule II-Valuation and Qualifying Accounts (collectively, the consolidated financial statements), and our report dated March 12, 2019 expressed an unqualified opinion on those consolidated financial statements·

The Company acquired Mosaic Fertilizantes P&K S.A. during 2018, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2018, Mosaic Fertilizantes P&K S.A.'s internal control over financial reporting associated with total assets of $3.3 billion and total net sales of $1.3 billion included in the consolidated financial statements of the Company as of and for the year ended December 31, 2018. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the newly acquired business.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. 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 audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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/ KPMG LLP
Minneapolis, Minnesota
March 12, 2019

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Consolidated Statements of Earnings
In millions, except per share amounts

	Years Ended December 31,		
	2018	2017	2016
Net sales	$9,587.3	$7,409.4	$7,162.8
Cost of goods sold	8,088.9	6,566.6	6,352.8
Gross margin	1,498.4	842.8	810.0
Selling, general and administrative expenses	341.1	301.3	304.2
Other operating expenses	229.0	75.8	186.8
Operating earnings	928.3	465.7	319.0
Interest expense, net	(166.1)	(138.1)	(112.4)
Foreign currency transaction (loss) gain	(191.9)	49.9	40.1
Other expense	(18.8)	(3.5)	(4.3)
Earnings from consolidated companies before income taxes	551.5	374.0	242.4
Provision for (benefit from) income taxes	77.1	494.9	(74.2)
Earnings (loss) from consolidated companies	474.4	(120.9)	316.6
Equity in net (loss) earnings of nonconsolidated companies	(4.5)	16.7	(15.4)
Net earnings (loss) including noncontrolling interests	469.9	(104.2)	301.2
Less: Net (loss) earnings attributable to noncontrolling interests	(0.1)	3.0	3.4
Net earnings (loss) attributable to Mosaic	$470.0	$(107.2)	$297.8
Basic net earnings (loss) per share attributable to Mosaic	$1.22	$(0.31)	$0.85
Basic weighted average number of shares outstanding	384.8	350.9	350.4
Diluted net earnings (loss) per share attributable to Mosaic	$1.22	$(0.31)	$0.85
Diluted weighted average number of shares outstanding	386.4	350.9	351.7

See Accompanying Notes to Consolidated Financial Statements

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Consolidated Statements of Comprehensive Income
In millions

	Years Ended December 31,		
	2018	2017	2016
Net earnings (loss) including noncontrolling interest	$469.9	$(104.2)	$301.2
Other comprehensive (loss) income, net of tax			
Foreign currency translation (loss) gain, net of tax benefit (expense) of $24.5, ($11.4) and $9.8, respectively	(596.9)	240.5	192.3
Net actuarial (loss) gain and prior service cost, net of tax (expense) benefit of ($2.4), ($2.1), and $3.1, respectively	(10.6)	6.3	(3.2)
Realized gain on interest rate swap, net of tax expense of $0.1, $0.7 and $1.0, respectively	2.2	1.7	1.5
Net gain (loss) on marketable securities held in trust fund, net of tax (expense) benefit of ($0.2), ($1.0) and $3.3, respectively	4.6	1.7	(7.8)
Other comprehensive (loss) income	(600.7)	250.2	182.8
Comprehensive (loss) income	(130.8)	146.0	484.0
Less: Comprehensive (loss) income attributable to noncontrolling interest	(5.3)	2.6	5.5
Comprehensive (loss) income attributable to Mosaic	$(125.5)	$143.4	$478.5

See Accompanying Notes to Consolidated Financial Statements

Consolidated Balance Sheets
In millions, except per share amounts

	December 31,	
	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	$847.7	$2,153.5
Receivables, net	838.5	642.6
Inventories	2,270.2	1,547.2
Other current assets	280.6	273.2
Total current assets	4,237.0	4,616.5
Property, plant and equipment, net	11,746.5	9,711.7
Investments in nonconsolidated companies	826.6	1,089.5
Goodwill	1,707.5	1,693.6
Deferred income taxes	343.8	254.6
Other assets	1,257.8	1,267.5
Total assets	$20,119.2	$18,633.4
Liabilities and Equity		
Current liabilities:		
Short-term debt	$11.5	$6.1
Current maturities of long-term debt	26.0	343.5
Structured accounts payable arrangements	572.8	386.2
Accounts payable	780.9	540.9
Accrued liabilities	1,092.5	754.4
Total current liabilities	2,483.7	2,031.1
Long-term debt, less current maturities	4,491.5	4,878.1
Deferred income taxes	1,080.6	1,117.3
Other noncurrent liabilities	1,458.7	967.8
Equity:		
Preferred stock, $0.01 par value, 15,000,000 shares authorized, none issued and outstanding as of December 31, 2018 and 2017	—	—
Common stock, $0.01 par value, 1,000,000,000 shares authorized, 389,242,360 shares issued and 385,470,085 shares outstanding as of December 31, 2018, 388,998,498 shares issued and 351,049,649 shares outstanding as of December 31, 2017	3.8	3.5
Capital in excess of par value	985.9	44.5
Retained earnings	11,064.7	10,631.1
Accumulated other comprehensive loss	(1,657.1)	(1,061.6)
Total Mosaic stockholders' equity	10,397.3	9,617.5
Non-controlling interests	207.4	21.6
Total equity	10,604.7	9,639.1
Total liabilities and equity	$20,119.2	$18,633.4

See Accompanying Notes to Consolidated Financial Statements

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Consolidated Statements of Cash Flows
In millions, except per share amounts

	Years Ended December 31,		
	2018	2017	2016
Cash Flows from Operating Activities			
Net earnings (loss) including noncontrolling interests	$469.9	$(104.2)	$301.2
Adjustments to reconcile net earnings including noncontrolling interests to net cash provided by operating activities:			
Depreciation, depletion and amortization	883.9	665.5	711.2
Amortization of acquired inventory	(49.2)	—	—
Deferred and other income taxes	(101.8)	612.4	(182.6)
Equity in net loss of nonconsolidated companies, net of dividends	12.9	34.4	32.6
Accretion expense for asset retirement obligations	48.0	25.7	40.4
Share-based compensation expense	27.5	28.0	30.5
Loss on write-down of long-lived asset	—	—	43.5
Unrealized loss (gain) on derivatives	58.9	8.3	(70.1)
Loss (gain) on disposal of fixed assets	63.1	(25.5)	27.0
Other	18.3	7.8	18.2
Changes in assets and liabilities, net of acquisitions:			
Receivables, net	5.9	(91.2)	3.5
Inventories, net	(497.4)	(155.7)	263.0
Other current assets and noncurrent assets	86.7	(23.7)	239.8
Accounts payable and accrued liabilities	342.0	(65.7)	(243.9)
Other noncurrent liabilities	41.1	19.4	45.9
Net cash provided by operating activities	1,409.8	935.5	1,260.2
Cash Flows from Investing Activities			
Capital expenditures	(954.5)	(820.1)	(843.1)
Purchases of available-for-sale securities - restricted	(534.5)	(1,676.3)	(1,659.4)
Proceeds from sale of available-for-sale securities - restricted	518.8	1,658.1	1,029.3
Proceeds from sale of assets	12.6	300.7	0.9
Acquisition, net of cash acquired	(985.3)	—	—
Investments in nonconsolidated companies	—	(62.5)	(244.0)
Investments in consolidated affiliate	(1.5)	(49.5)	(169.0)
Other	(0.3)	(18.2)	19.3
Net cash used in investing activities	(1,944.7)	(667.8)	(1,866.0)
Cash Flows from Financing Activities			
Payments of short-term debt	(144.4)	(601.4)	(421.3)
Proceeds from issuance of short-term debt	155.1	631.4	397.0
Payments of structured accounts payable arrangements	(762.1)	(418.5)	(792.2)
Proceeds from structured accounts payable arrangements	834.1	666.8	433.6
Payments of long-term debt	(802.9)	(102.2)	(769.1)
Proceeds from issuance of long-term debt	39.3	1,251.4	720.0
Payment of financing costs	—	(15.4)	—
Repurchases of stock	—	—	(75.0)
Cash dividends paid	(38.5)	(210.6)	(385.1)
Other	(5.4)	(0.7)	3.5
Net cash (used in) provided by financing activities	(724.8)	1,200.8	(888.6)
Effect of exchange rate changes on cash	(63.7)	14.5	68.8

Net change in cash, cash equivalents and restricted cash	(1,323.4)	1,483.0	(1,425.6)
Cash, cash equivalents and restricted cash—beginning of period	2,194.4	711.4	2,137.0
Cash, cash equivalents and restricted cash—end of period	$871.0	$2,194.4	$711.4

See Accompanying Notes to Consolidated Financial Statements

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THE MOSAIC COMPANY
CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
(In millions)

	Years Ended December 31,		
	2018	2017	2016
Reconciliation of cash, cash equivalents and restricted cash reported within the consolidated balance sheets to the consolidated statements of cash flows:			
Cash and cash equivalents	$847.7	$2,153.5	$673.1
Restricted cash in other current assets	7.5	8.3	7.0
Restricted cash in other assets	15.8	32.6	31.3
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$871.0	$2,194.4	$711.4

See Accompanying Notes to Consolidated Financial Statements

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Consolidated Statements of Equity
In millions, except per share data

	Shares	Dollars					
		Mosaic Shareholders					
	Common Stock	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Non-Controlling Interests	Total Equity
Balance as of December 31, 2015	352.5	$3.5	$ 6.4	$11,014.8	$ (1,492.9)	$ 33.2	$9,565.0
Total comprehensive income (loss)	—	—	—	297.8	180.7	5.5	484.0
Stock option exercises	0.5	—	3.8	—	—	—	3.8
Stock based compensation	—	—	29.2	—	—	—	29.2
Repurchases of stock	(2.8)	—	(9.5)	(65.5)	—	—	(75.0)
Dividends ($1.10 per share)	—	—	—	(383.7)	—	—	(383.7)
Dividends for noncontrolling interests	—	—	—	—	—	(0.8)	(0.8)
Balance as of December 31, 2016	350.2	3.5	29.9	10,863.4	(1,312.2)	37.9	9,622.5
Total comprehensive income (loss)	—	—	—	(107.2)	250.6	2.6	146.0
Vesting of restricted stock units	0.8	—	(12.8)	—	—	—	(12.8)
Stock based compensation	—	—	27.4	—	—	—	27.4
Dividends ($0.35 per share)	—	—	—	(125.1)	—	—	(125.1)
Dividends for noncontrolling interests	—	—	—	—	—	(0.7)	(0.7)
Distribution to noncontrolling interests	—	—	—	—	—	(18.2)	(18.2)
Balance as of December 31, 2017	351.0	3.5	44.5	10,631.1	(1,061.6)	21.6	9,639.1
Adoption of ASC Topic 606	—	—	—	2.7	—	—	2.7
Total comprehensive income (loss)	—	—	—	470.0	(595.5)	(5.3)	(130.8)
Vesting of restricted stock units	0.3	—	(3.4)	—	—	—	(3.4)
Stock based compensation	—	—	25.1	—	—	—	25.1
Acquisition of Vale Fertilizantes	34.2	0.3	919.7	—	—	—	920.0
Dividends ($0.10 per share)	—	—	—	(39.1)	—	—	(39.1)
Dividends for noncontrolling interests	—	—	—	—	—	(0.6)	(0.6)
Equity from noncontrolling interests	—	—	—	—	—	191.7	191.7
Balance as of December 31, 2018	385.5	$3.8	$ 985.9	$11,064.7	$ (1,657.1)	$ 207.4	$10,604.7

See Accompanying Notes to Consolidated Financial Statements

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Notes to Consolidated Financial Statements
Tables in millions, except per share amounts

1. ORGANIZATION AND NATURE OF BUSINESS

The Mosaic Company ("Mosaic", and, with its consolidated subsidiaries, "we", "us", "our", or the "Company") produces and markets concentrated phosphate and potash crop nutrients. We conduct our business through wholly and majority owned subsidiaries and businesses in which we own less than a majority or a noncontrolling interest, including consolidated variable interest entities and investments accounted for by the equity method.

On January 8, 2018, we completed our acquisition (the "Acquisition") of Vale Fertilizantes S.A. (now known as Mosaic Fertilizantes P&K S.A. or the "Acquired Business"). Upon completion of the Acquisition, we became the leading fertilizer producer and distributor in Brazil. To reflect the fact that our Brazilian business is no longer strictly a distribution business, as well as the significance of our investment in Brazil, we realigned our business segments (the "Realignment"). Beginning in the first quarter of 2018, we report the results of the Mosaic Fertilizantes business as a segment, along with our other reportable segments of Phosphates and Potash.

After the Realignment, we are organized into the following business segments:

- Our Phosphates business segment owns and operates mines and production facilities in Florida which produce concentrated phosphate crop nutrients and phosphate-based animal feed ingredients, and processing plants in Louisiana which produce concentrated phosphate crop nutrients. As part of the Acquisition, we acquired an additional 40% economic interest in the Miski Mayo Phosphate Mine in Peru, which increased our aggregate interest to 75%. These results are now consolidated in the Phosphates segment. The Phosphates segment also includes our 25% interest in the Ma'aden Wa'ad Al Shamal Phosphate Company (the "MWSPC"), a joint venture to develop, own and operate integrated phosphate production facilities in the Kingdom of Saudi Arabia. We market approximately 25% of the MWSPC phosphate production. We recognize our equity in the net earnings or losses relating to MWSPC on a one-quarter lag in our Consolidated Statements of Earnings.
- Our Potash business segment owns and operates potash mines and production facilities in Canada and the U.S. which produce potash-based crop nutrients, animal feed ingredients and industrial products. Potash sales include domestic and international sales. We are a member of Canpotex, Limited ("Canpotex"), an export association of Canadian potash producers through which we sell our Canadian potash outside the U.S. and Canada.
- Our Mosaic Fertilizantes business segment includes the assets in Brazil that we acquired in the Acquisition, which include five Brazilian phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our legacy distribution business in South America, which consists of sales offices, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay. We also have a majority interest in Fospar S.A., which owns and operates a single superphosphate granulation plant and a deep-water crop nutrition port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort® results of operations and the results of our China and India distribution businesses are included within Corporate, Eliminations and Other.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Statement Presentation and Basis of Consolidation

The accompanying Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). Throughout the Notes to Consolidated Financial Statements, amounts in tables are in millions of dollars except for per share data and as otherwise designated.

The accompanying Consolidated Financial Statements include the accounts of Mosaic and its majority owned subsidiaries. Certain investments in companies in which we do not have control but have the ability to exercise significant influence are accounted for by the equity method.

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Accounting Estimates

Preparation of the Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of net sales and expenses during the reporting periods. The most significant estimates made by management relate to the estimates of fair value of acquired assets and liabilities, the recoverability of non-current assets including goodwill, the useful lives and net realizable values of long-lived assets, environmental and reclamation liabilities, including asset retirement obligations (“ARO”), the costs of our employee benefit obligations for pension plans and postretirement benefits, income tax-related accounts, including the valuation allowance against deferred income tax assets, inventory valuation and accruals for pending legal and environmental matters. Actual results could differ from these estimates.

Revenue Recognition

We generate revenues primarily by producing and marketing phosphate and potash crop nutrients. Revenue is recognized when control of the product is transferred to the customer, which is generally upon transfer of title to the customer based on the contractual terms of each arrangement. Title is typically transferred to the customer upon shipment of the product. In certain circumstances, which are referred to as final price deferred arrangements, we ship product prior to the establishment of a valid sales contract. In such cases, we retain control of the product and do not recognize revenue until a sales contract has been agreed to with the customer.

Revenue is measured as the amount of consideration we expect to receive in exchange for the transfer of our goods. Our products are generally sold based on market prices prevailing at the time the sales contract is signed or through contracts which are priced at the time of shipment based on a formula. Sales incentives are estimated as earned by the customer and recorded as a reduction of revenue. Shipping and handling costs are included as a component of cost of goods sold.

Non-Income Taxes

We pay Canadian resource taxes consisting of the Potash Production Tax and resource surcharge. The Potash Production Tax is a Saskatchewan provincial tax on potash production and consists of a base payment and a profits tax. In addition to the Canadian resource taxes, royalties are payable to the mineral owners with respect to potash reserves or production of potash. These resource taxes and royalties are recorded in our cost of goods sold. Our Canadian resource tax and royalty expenses were $198.8 million, $142.0 million and $121.6 million during 2018, 2017 and 2016, respectively.

We have approximately $90.4 million of assets recorded as of December 31, 2018 related to PIS and Cofins, which is a Brazilian federal value-added tax, and income tax credits mostly earned in 2008 through 2018 that we believe will be realized through paying income taxes, paying other federal taxes, or receiving cash refunds. Should the Brazilian government determine that these are not valid credits upon audit, this could impact our results in such period. We have recorded the PIS and Cofins credits at amounts which we believe are probable of collection. Information regarding PIS and Cofins taxes already audited is included in Note 22 of our Notes to Consolidated Financial Statements.

Foreign Currency Translation

The Company’s reporting currency is the U.S. dollar; however, for operations located in Canada and Brazil, the functional currency is the local currency. Assets and liabilities of these foreign operations are translated to U.S. dollars at exchange rates in effect at the balance sheet date, while income statement accounts and cash flows are translated to U.S. dollars at the average exchange rates for the period. For these operations, translation gains and losses are recorded as a component of accumulated other comprehensive income in equity until the foreign entity is sold or liquidated. Transaction gains and losses result from transactions that are denominated in a currency other than the functional currency of the operation, primarily accounts receivable and intercompany loans in our Canadian entities denominated in U.S. dollars, and accounts payable in Brazil denominated in U.S. dollars. These foreign currency transaction gains and losses are presented separately in the Consolidated Statement of Earnings.

Cash and Cash Equivalents

Cash and cash equivalents include short-term, highly liquid investments with original maturities of 90 days or less, and other highly liquid investments that are payable on demand such as money market accounts, certain certificates of deposit and repurchase agreements. The carrying amount of such cash equivalents approximates their fair value due to

the short-term and highly liquid nature of these instruments.

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Concentration of Credit Risk

In the U.S., we sell our products to manufacturers, distributors and retailers, primarily in the Midwest and Southeast. Internationally, our potash products are sold primarily through Canpotex, an export association. A concentration of credit risk arises from our sales and accounts receivable associated with the international sales of potash product through Canpotex. We consider our concentration risk related to the Canpotex receivable to be mitigated by their credit policy, which requires the underlying receivables to be substantially insured or secured by letters of credit. As of December 31, 2018, there was an immaterial amount of accounts receivable due from Canpotex, compared to $37.8 million of accounts receivable due from Canpotex in 2017. During 2018, 2017, and 2016, sales to Canpotex were $820.1 million, $700.6 million and $604.5 million, respectively.

Inventories

Inventories of raw materials, work-in-process products, finished goods and operating materials and supplies are stated at the lower of cost or net realizable value. Costs for substantially all inventories are determined using the weighted average cost basis. To determine the cost of inventory, we allocate fixed expense to the costs of production based on the normal capacity, which refers to a range of production levels and is considered the production expected to be achieved over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance. Fixed overhead costs allocated to each unit of production should not increase due to abnormally low production. Those excess costs are recognized as a current period expense. When a production facility is completely shut down temporarily, it is considered “idle”, and all related expenses are charged to cost of goods sold.

Net realizable value of our inventory is defined as forecasted selling prices less reasonably predictable selling costs. Significant management judgment is involved in estimating forecasted selling prices including various demand and supply variables. Examples of demand variables include grain and oilseed prices, stock-to-use ratios and changes in inventories in the crop nutrients distribution channels. Examples of supply variables include forecasted prices of raw materials, such as phosphate rock, sulfur, ammonia, and natural gas, estimated operating rates and industry crop nutrient inventory levels. Results could differ materially if actual selling prices differ materially from forecasted selling prices. Charges for lower of cost or market are recognized in our Consolidated Statements of Earnings in the period when there is evidence of a decline of market value below cost.

Property, Plant and Equipment and Recoverability of Long-Lived Assets

Property, plant and equipment are stated at cost. Costs of significant assets include capitalized interest incurred during the construction and development period. Repairs and maintenance, including planned major maintenance and plant turnaround costs, are expensed when incurred.

Depletion expenses for mining operations, including mineral reserves, are generally determined using the units-of-production method based on estimates of recoverable reserves. Depreciation is computed principally using the straight-line method and units-of-production method over the following useful lives: machinery and equipment three to 25 years, and buildings and leasehold improvements three to 40 years.

We estimate initial useful lives based on experience and current technology. These estimates may be extended through sustaining capital programs. Factors affecting the fair value of our assets or periods of expected use may also affect the estimated useful lives of our assets and these factors can change. Therefore, we periodically review the estimated remaining lives of our facilities and other significant assets and adjust our depreciation rates prospectively where appropriate.

We have worked extensively to ensure the mechanical integrity of our fixed assets in order to help prolong their useful lives, while helping to improve asset utilization and potential cash preservation. As a result, we completed an in-depth review of our fixed assets and concluded that for certain assets, we would make a change to the units-of-production depreciation method from the straight-line method to better reflect the pattern of consumption of those assets. We also determined the expected lives of certain mining and production equipment and reserves were longer than the previously estimated useful lives used to determine depreciation in our financial statements. As a result, effective January 1, 2017, we changed our estimates of the useful lives and method of determining the depreciation of certain equipment to better reflect the estimated periods during which these assets will remain in service. The effect of this change in estimates reduced depreciation expense, thus increasing operating earnings, by approximately $65 million

in 2017. Amounts may vary throughout the year due to changes in production levels. As a result of this change and actions taken to prolong asset lives, we expect our maintenance expense to increase in the future.

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Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment assessment involves management judgment and estimates of factors such as industry and market conditions, the economic life of the asset, sales volume and prices, inflation, raw materials costs, cost of capital, tax rates and capital spending. The carrying amount of a long-lived asset group is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset group. If it is determined that an impairment loss has occurred, the loss is measured as the amount by which the carrying amount of the long-lived asset group exceeds its fair value.

Leases

Leases in which the risk of ownership is retained by the lessor are classified as operating leases. Leases which substantially transfer all of the benefits and risks inherent in ownership to the lessee are classified as capital leases. Assets acquired under capital leases are depreciated on the same basis as property, plant and equipment. Rental payments are expensed on a straight-line basis. Leasehold improvements are depreciated over the depreciable lives of the corresponding fixed assets or the related lease term, whichever is shorter.

Structured Accounts Payable Arrangements

In Brazil, we finance some of our potash-based fertilizer, sulfur, ammonia and other raw material product purchases through third-party financing arrangements. These arrangements provide that the third-party intermediary advance the amount of the scheduled payment to the vendor, less an appropriate discount, at a scheduled payment date and Mosaic makes payment to the third-party intermediary at a later date, stipulated in accordance with the commercial terms negotiated. At December 31, 2018 and 2017, these structured accounts payable arrangements were $572.8 million and $386.2 million, respectively.

Contingencies

Accruals for environmental remediation efforts are recorded when costs are probable and can be reasonably estimated. In determining these accruals, we use the most current information available, including similar past experiences, available technology, consultant evaluations, regulations in effect, the timing of remediation and cost-sharing arrangements. Adjustments to accruals, recorded as needed in our Consolidated Statement of Earnings each quarter, are made to reflect changes in and current status of these factors.

We are involved from time to time in claims and legal actions incidental to our operations, both as plaintiff and defendant. We have established what we currently believe to be adequate accruals for pending legal matters. These accruals are established as part of an ongoing worldwide assessment of claims and legal actions that takes into consideration such items as advice of legal counsel, individual developments in court proceedings, changes in the law, changes in business focus, changes in the litigation environment, changes in opponent strategy and tactics, new developments as a result of ongoing discovery, and our experience in defending and settling similar claims. The litigation accruals at any time reflect updated assessments of the then-existing claims and legal actions. The final outcome or potential settlement of litigation matters could differ materially from the accruals which we have established. Legal costs are expensed as incurred.

Pension and Other Postretirement Benefits

Mosaic offers a number of benefit plans that provide pension and other benefits to qualified employees. These plans include defined benefit pension plans, supplemental pension plans, defined contribution plans and other postretirement benefit plans.

We accrue the funded status of our plans, which is representative of our obligations under employee benefit plans and the related costs, net of plan assets measured at fair value. The cost of pensions and other retirement benefits earned by employees is generally determined with the assistance of an actuary using the projected benefit method prorated on service and management's best estimate of expected plan investment performance, salary escalation, retirement ages of employees and expected healthcare costs.

Additional Accounting Policies

To facilitate a better understanding of our consolidated financial statements we have disclosed the following significant accounting policies (with the exception of those identified above) throughout the following notes, with the related financial disclosures by major caption:

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3. RECENTLY ISSUED ACCOUNTING GUIDANCE

Recently Adopted Accounting Pronouncements

On January 1, 2018, we adopted ASC Topic 606, “Revenue from Contracts with Customers” and related amendments (“new revenue standard”) using the modified retrospective method applied to those revenue contracts which were not completed as of January 1, 2018. See Note 4 of our Notes to Condensed Consolidated Financial Statements for additional information regarding the impacts of the new revenue standard.

In January 2016, the Financial Accounting Standards Board ("FASB") issued guidance which addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. This guidance was effective for us beginning January 1, 2018, and did not have a material effect on our consolidated financial statements.

In December 2017, The U.S. Tax Cuts and Jobs Act (“The Act”) was enacted, significantly altering U.S. corporate income tax law. The FASB has issued guidance related to the newly enacted corporate income tax law changes enacted in December 2017. As of December 31, 2018, the impacts of The Act have been finalized. See Note 13 of our Notes to Consolidated Financial Statements for additional information regarding the impacts of The Act.

Pronouncements Issued But Not Yet Adopted

In February 2016, the FASB issued guidance which requires recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. This guidance, including subsequent amendments, is effective for us beginning January 1, 2019, with early adoption permitted. The provisions of this guidance are to be applied using a modified retrospective approach at either the adoption date or the beginning of the earliest comparative period presented in the financial statements. We will not early adopt this guidance, and have determined that we will utilize certain initial calculational guidance for existing leases provided in the standard for use in the modified retrospective approach. We will apply this guidance as of the adoption date, January 1, 2019. We have largely completed the process of gathering information about our lease arrangements, and evaluating provisions of our leases against the recognition requirements of the new guidance. Additionally, we are implementing an integrated lease information system solution and changes to internal procedures necessary to meet the requirements of the new guidance. Upon adoption of the guidance as of January 1, 2019, we expect to record a right-of-use asset and lease liability related to our operating leases of approximately $250.0 million. The accounting for our existing capital leases (now called finance leases) will remain largely unchanged. We continue to asses all potential impacts of the guidance and given normal ongoing business dynamics, preliminary conclusions are subject to change.

4. REVENUE

Adoption of ASC Topic 606, “Revenue with Customers”

On January 1, 2018, we adopted ASC Topic 606, “Revenue from Contracts with Customers” and related amendments (“new revenue standard”) using the modified retrospective method applied to those revenue contracts which were not completed as of January 1, 2018. We recognized the cumulative effect of initially applying the new revenue standard as a net increase to opening retained earnings of $2.7 million, net of tax, as of January 1, 2018, with the impact primarily related to deferred North America revenue at December 31, 2017.

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The comparative information for the years ended December 31, 2017 and 2016 has not been restated and continues to be reported under the accounting standards in effect for those periods. The adoption of the new standard has not had a significant impact on our results of operations on an ongoing basis. The cumulative effects of the changes made to our consolidated January 1, 2018 balance sheet for the adoption of the new revenue standard were as follows (in millions):

	Balance at December 31, 2017	Adjustments upon adoption	Balance at January 1, 2018
Balance Sheet			
Receivables, net	$ 642.6	$ 18.2	$ 660.8
Inventories	1,547.2	(13.3)	1,533.9
Deferred income tax asset	254.6	(1.3)	253.3
Accrued Liabilities	754.4	0.9	755.3
Retained earnings	10,631.1	2.7	10,633.8

Revenue Recognition

We generate revenues primarily by producing and marketing phosphate and potash crop nutrients. Revenue is recognized when control of the product is transferred to the customer, which is generally upon transfer of title to the customer based on the contractual terms of each arrangement. Title is typically transferred to the customer upon shipment of the product. In certain circumstances, which are referred to as final price deferred arrangements, we ship product prior to the establishment of a valid sales contract. In such cases, we retain control of the product and do not recognize revenue until a sales contract has been agreed to with the customer.

Revenue is measured as the amount of consideration we expect to receive in exchange for the transfer of our goods. Our products are generally sold based on market prices prevailing at the time the sales contract is signed or through contracts which are priced at the time of shipment based on a formula. Sales incentives are estimated as earned by the customer and recorded as a reduction of revenue. Shipping and handling costs are included as a component of cost of goods sold.

For information regarding sales by product type and by geographic area, see Note 25 of our Notes to Consolidated Financial Statements.

Under the new revenue standard, the timing of revenue recognition is accelerated for certain sales arrangements due to the emphasis on transfer of control rather than risks and rewards. Certain sales where revenue was previously deferred until risk was fully assumed by the customer will now be recognized when the product is shipped. Additionally, the timing of when we record revenue on sales by Canpotex has been impacted by their adoption of new revenue standards. The total impact of adoption on our condensed consolidated statement of earnings and balance sheet was as follows (in millions):

	For the year ended December 31, 2018				
	As Reported	Elimination of Revenue Deferral	Canpotex Impact (a)	Balances Without New Revenue Standards	Impact
Income Statement					
Net sales	$9,587.3	$ (87.9)	$ 96.4	$ 9,595.8	(8.5)
Cost of goods sold	8,088.9	(64.3)	54.1	8,078.7	10.2
Provision for (benefit from) income taxes	77.1	(2.1)	5.8	80.8	(3.7)
Net earnings (loss) attributable to Mosaic	470.0	(21.5)	36.5	485.0	(15.0)
Balance Sheet					
Receivables, net	$ 838.5	$ (107.3)	$ 96.4	$ 827.6	$ 10.9
Inventories	2,270.2	48.1	(42.8)	2,275.5	(5.3)

Other current assets	280.6	23.5	—	304.1	(23.5)
Deferred income tax asset	343.8	3.4	(5.8)	341.4	2.4
Accrued liabilities	1,092.5	(8.1)	11.4	1,095.8	(3.3)
Retained earnings	11,064.7	(24.2)	36.4	11,076.9	(12.2)

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(a) Includes impact from Canpotex's adoption of new revenue standards, resulting in a deferral of approximately 450,000 tonnes as of December 31, 2018.

Practical Expedients and Exemptions

We generally expense sales commissions when incurred because the amortization period would have been one year or less. These costs are recorded within sales and marketing expenses.

We have elected to recognize the cost for freight and shipping as an expense in cost of sales, when control over the product has passed to the customer.

5. OTHER FINANCIAL STATEMENT DATA

The following provides additional information concerning selected balance sheet accounts:

	December 31,	
(in millions)	2018	2017
Receivables		
Trade	$703.7	$563.6
Non-trade	136.1	81.3
	839.8	644.9
Less allowance for doubtful accounts	1.3	2.3
	$838.5	$642.6
Inventories		
Raw materials	$147.5	$37.8
Work in process	625.5	349.9
Finished goods	1,343.8	1,035.1
Final price deferred [a]	39.3	38.6
Operating materials and supplies	114.1	85.8
	$2,270.2	$1,547.2
Other current assets		
Income and other taxes receivable	$149.2	$141.3
Prepaid expenses	86.8	69.0
Other	44.6	62.9
	$280.6	$273.2
Other assets		
Restricted cash	$15.8	$32.6
MRO inventory	134.6	114.8
Marketable securities held in trust - restricted	632.3	628.0
Indemnification asset	30.7	—
Long-term receivable	91.7	—
Other	352.7	492.1
	$1,257.8	$1,267.5

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(in millions)	December 31, 2018	2017
Accrued liabilities		
Accrued dividends	$11.8	$12.1
Payroll and employee benefits	217.5	159.5
Asset retirement obligations	136.3	98.1
Customer prepayments	199.8	140.4
Accrued income tax	65.5	1.4
Other	461.6	342.9
	$1,092.5	$754.4
Other noncurrent liabilities		
Asset retirement obligations	$1,023.8	$761.2
Accrued pension and postretirement benefits	146.3	53.7
Unrecognized tax benefits	33.0	33.5
Other	255.6	119.4
	$1,458.7	$967.8

(a) Final price deferred is product that has shipped to customers, but the price has not yet been agreed upon.

Interest expense, net was comprised of the following in 2018, 2017 and 2016:

(in millions)	Years Ended December 31, 2018	2017	2016
Interest income	$49.7	$33.2	$28.2
Less interest expense	215.8	171.3	140.6
Interest expense, net	$(166.1)	$(138.1)	$(112.4)

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following:

(in millions)	December 31, 2018	2017
Land	$321.5	$245.9
Mineral properties and rights	4,478.2	3,540.4
Buildings and leasehold improvements	2,760.9	2,473.0
Machinery and equipment[a]	8,955.7	7,933.5
Construction in-progress	2,164.7	1,793.0
	18,681.0	15,985.8
Less: accumulated depreciation and depletion	6,934.5	6,274.1
	$11,746.5	$9,711.7

(a) Includes assets under capital leases of approximately $340.9 million and $345.0 million as of December 31, 2018 and 2017, respectively.

Depreciation and depletion expense was $878.2 million, $659.4 million and $703.8 million for 2018, 2017 and 2016, respectively. Capitalized interest on major construction projects was $22.1 million, $23.9 million and $38.5 million for 2018, 2017 and 2016.

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7. EARNINGS PER SHARE

The numerator for basic and diluted earnings per share ("EPS") is net earnings attributable to Mosaic. The denominator for basic EPS is the weighted average number of shares outstanding during the period. The denominator for diluted EPS also includes the weighted average number of additional common shares that would have been outstanding if the dilutive potential common shares had been issued, unless the shares are anti-dilutive.

The following is a reconciliation of the numerator and denominator for the basic and diluted EPS computations:

	Years Ended December 31,		
(in millions)	2018	2017	2016
Net earnings (loss) attributable to Mosaic	$470.0	$(107.2)	$297.8
Basic weighted average number of shares outstanding attributable to common stockholders	384.8	350.9	350.4
Dilutive impact of share-based awards	1.6	—	1.3
Diluted weighted average number of shares outstanding	386.4	350.9	351.7
Basic net earnings (loss) per share	$1.22	$(0.31)	$0.85
Diluted net earnings (loss) per share	$1.22	$(0.31)	$0.85

A total of 2.0 million shares for 2018, 3.5 million shares for 2017, and 3.0 million shares for 2016 of common stock subject to issuance upon exercise of stock options have been excluded from the calculation of diluted EPS because the effect would have been anti-dilutive.

8. CASH FLOW INFORMATION

Supplemental disclosures of cash paid for interest and income taxes and non-cash investing and financing information is as follows:

	Years Ended December 31,		
(in millions)	2018	2017	2016
Cash paid during the period for:			
Interest	$196.0	$178.9	$163.0
Less amount capitalized	22.1	23.9	38.5
Cash interest, net	$173.9	$155.0	$124.5
Income taxes	$(34.2)	$(70.1)	$(65.4)

Acquiring or constructing property, plant and equipment by incurring a liability does not result in a cash outflow for us until the liability is paid. In the period the liability is incurred, the change in operating accounts payable on the Consolidated Statements of Cash Flows is adjusted by such amount. In the period the liability is paid, the amount is reflected as a cash outflow from investing activities. The applicable net change in operating accounts payable that was classified to investing activities on the Consolidated Statements of Cash Flows was $(96.8) million, $11.1 million and $43.7 million for 2018, 2017, and 2016 respectively.

We accrued $11.8 million related to the dividends declared in 2018 that will be paid in 2019. At December 31, 2017 and 2016, we had accrued dividends of $12.1 million and $96.3 million which were paid in 2018 and 2017, respectively.

On October 24, 2017, a lease financing transaction was completed with respect to an articulated tug and barge unit that is being used to transport ammonia for our operations. As described in more detail in Note 23, we had provided bridge loans to a consolidated affiliate for construction of the unit, and that entity also received construction loans from a joint venture in which we hold a 50% interest. Following the application of proceeds from the transaction, all outstanding construction loans to the joint venture entity, together with accrued interest, were repaid.

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We had non cash investing and financing transactions related to assets acquired under capital leases in 2017 of $267.9 million. Non cash investing and financing transactions related to assets acquired under capital leases were immaterial in 2018.

Depreciation, depletion and amortization includes $878.2 million, $659.4 million, and $703.8 million related to depreciation and depletion of property, plant and equipment, and $5.7 million, $6.1 million, and $7.4 million related to amortization of intangible assets for 2018, 2017, and 2016, respectively.

9. INVESTMENTS IN NON-CONSOLIDATED COMPANIES

We have investments in various international and domestic entities and ventures. The equity method of accounting is applied to such investments when the ownership structure prevents us from exercising a controlling influence over operating and financial policies of the businesses but still allow us to have significant influence. Under this method, our equity in the net earnings or losses of the investments is reflected as equity in net earnings of non-consolidated companies on our Consolidated Statements of Earnings. The effects of material intercompany transactions with these equity method investments are eliminated, including the gross profit on sales to and purchases from our equity-method investments which is deferred until the time of sale to the final third party customer. The cash flow presentation of dividends received from equity method investees is determined by evaluation of the facts, circumstances and nature of the distribution.

A summary of our equity-method investments, which were in operation as of December 31, 2018, is as follows:

Entity	Economic Interest	
Gulf Sulphur Services LTD., LLLP	50.0	%
River Bend Ag, LLC	50.0	%
IFC S.A.	45.0	%
MWSPC	25.0	%
Canpotex	36.2	%

The summarized financial information shown below includes all non-consolidated companies carried on the equity method.

	Years Ended December 31,				
(in millions)	2018		2017	2016	
Net sales	$3,555.6		$2,871.2	$2,307.9	
Net earnings (loss)	(5.4	)	95.3	11.9	
Mosaic’s share of equity in net earnings (loss)	(4.5	)	16.7	(15.4	)
Total assets	9,042.9		8,623.6	8,665.4	
Total liabilities	6,658.2		5,971.9	6,310.1	
Mosaic’s share of equity in net assets	609.1		712.8	651.5	

The difference between our share of equity in net assets as shown in the above table and the investment in non-consolidated companies as shown on the Consolidated Balance Sheets is mainly due to the July 1, 2016, equity contribution of $120 million we made to MWSPC, representing the remaining liability for our portion of mineral rights value transferred to MWSPC from Ma’aden. As of December 31, 2018, MWSPC represented 85% of the total assets and 80% of the total liabilities in the table above. MWSPC commenced ammonia operations in late 2016 and, on December 1, 2018, commenced commercial operations of its DAP plant, thereby bringing the entire project to the commercial production phase. We expect DAP production to gradually ramp-up until it reaches 3.0 million tonnes in annual production capacity which is expected in 2020. In 2018 our loss in net earnings was $9.5 million, compared to equity in net earnings of $32.0 million in 2017. MWSPC earnings for the period ended December 31, 2016 were immaterial.

MWSPC owns and operates a mine and two chemical complexes that produce phosphate fertilizers and other downstream phosphates products in the Kingdom of Saudi Arabia. We currently estimate that the cost to develop and construct the integrated phosphate production facilities (the “Project”) will approximate $8.0 billion when finished, which has been funded primarily through investments by us, Ma’aden and SABIC (together, the “Project Investors”), and through borrowing arrangements and other external project financing facilities (“Funding Facilities”). The production facilities are expected to

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have a capacity of approximately 3.0 million tonnes of finished product per year when fully operational. We market approximately 25% of the production of the joint venture.

On June 30, 2014, MWSPC entered into Funding Facilities with a consortium of 20 financial institutions for a total amount of approximately $5.0 billion.

Also on June 30, 2014, in support of the Funding Facilities, we, together with Ma’aden and SABIC, agreed to provide our respective proportionate shares of the funding necessary for MWSPC by:

(a) Contributing equity or making shareholder subordinated loans of up to $2.4 billion to fund project costs to complete and commission the Project (the “Equity Commitments”).

(b) Through the earlier of Project completion or June 30, 2020, contributing equity, making shareholder subordinated loans or providing bank subordinated loans, to fund cost overruns on the Project (the “Additional Cost Overrun Commitment”).

(c) Through the earlier of Project completion or June 30, 2020, contributing equity, making shareholder loans or providing bank subordinated loans to fund scheduled debt service (excluding accelerated amounts) payable under the Funding Facilities and certain other amounts (such commitment, the “DSU Commitment” and such scheduled debt service and other amounts, “Scheduled Debt Service”). Our proportionate share of amounts covered by the DSU Commitment is not anticipated to exceed approximately $200 million. The fair value of the DSU Commitment at December 31, 2018 is not material.

(d) From the earlier of the Project completion date or June 30, 2020, to the extent there is a shortfall in the amounts available to pay Scheduled Debt Service, depositing for the payment of Scheduled Debt Service an amount up to the respective amount of certain shareholder tax amounts, and severance fees under MWSPC’s mining license, paid within the prior 36 months by MWSPC on behalf of the Project Investors, if any.

In January 2016, MWSPC received approval from the Saudi Industrial Development Fund (“SIDF”) for loans in the total amount of approximately $1.1 billion for the Project, subject to the finalization of definitive agreements. In 2017, MWSPC entered into definitive agreements with SIDF to draw up to $560 million from the total SIDF-approved amount (the “SIDF Loans”). In September of 2018, we received communication that SIDF agreed to waive Mosaic's Parent Guarantee. MWSPC received approval to access the remaining SIDF facility of $506 million which was subsequently drawn in December 2018. Mosaic continues to have Equity Commitments, the Additional Cost Overrun Commitment and the DSU Commitment in relation to MWSPC project financing.

As of December 31, 2018, our cash investment was $770 million. We did not make any contributions in 2018 and do not expect future contributions will be needed even though we are contractually obligated to make future cash contributions of approximately $70 million.

10. GOODWILL

Goodwill is carried at cost, not amortized, and represents the excess of the purchase price and related costs over the fair value assigned to the net identifiable assets of a business acquired. We test goodwill for impairment on a quantitative basis at the reporting unit level on an annual basis or upon the occurrence of events that may indicate possible impairment. The test resulted in no impairment in the periods presented.

The changes in the carrying amount of goodwill, by reporting unit, as of December 31, 2018 and 2017, are as follows:

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(in millions)	Phosphates	Potash	Mosaic Fertilizantes	Corporate, Eliminations and Other	Total
Balance as of December 31, 2016	$ 492.4	$1,013.6	$ 124.9	$ —	$1,630.9
Foreign currency translation	—	63.3	(0.6)	—	62.7
Balance as of December 31, 2017	492.4	1,076.9	124.3	—	1,693.6
Foreign currency translation	—	(76.5)	(5.8)	—	(82.3)
Allocation of goodwill due to Realignment	—	—	(12.1)	12.1	—
Goodwill acquired in the Vale acquisition	96.2	—	—	—	96.2
Balance as of December 31, 2018	$ 588.6	$1,000.4	$ 106.4	$ 12.1	$1,707.5

We elected early adoption of ASU 2017-04 effective January 1, 2017, “Intangibles Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.” As a result, we removed Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. Goodwill impairment will now be the amount by which a reporting unit’s carrying value exceeds its fair value, not to exceed the carrying amount of goodwill.

In connection with the Realignment and the Acquisition we performed a review of goodwill in the quarter ended March 31, 2018, and no impairment was identified. Based on the proportionate share of business enterprise value (representative of the fair value) we assigned a portion of goodwill to Corporate and Other at that time.

As of October 31, 2018, we performed our annual quantitative assessment. In performing our assessment, we estimated the fair value of each of our reporting units using the income approach, also known as the discounted cash flow (“DCF”) method. The income approach utilized the present value of cash flows to estimate fair value. The future cash flows for our reporting units were projected based on our estimates, at that time, for revenue, operating income and other factors (such as working capital and capital expenditures for each reporting unit). To determine if the fair value of each of our reporting units with goodwill exceeded its carrying value, we assumed sales volume growth rates based on our long-term expectations, our internal selling prices and raw material prices for years one through five, which were anchored in projections from CRU International Limited, an independent third party data source. Selling prices and raw material prices for years six and beyond were based on anticipated market growth. The discount rates used in our DCF method were based on a weighted-average cost of capital (“WACC”), determined from relevant market comparisons. A terminal value growth rate of 2% was applied to the final year of the projected period and reflected our estimate of stable growth. We then calculated a present value of the respective cash flows for each reporting unit to arrive at an estimate of fair value under the income approach. Finally, we compared our estimates of fair values for our reporting units, to our October 31, 2017 total public market capitalization, based on our common stock price at that date.

In making this assessment, we considered, among other things, expectations of projected net sales and cash flows, assumptions impacting the WACC, changes in our stock price and changes in the carrying values of our reporting units with goodwill. We also considered overall business conditions. Based on our 2018 annual impairment test, no reporting units were considered at risk of impairment.

Based on our quantitative evaluation at October 31, 2018, we determined that our Potash reporting unit had an estimated fair value that was not in significant excess of its carrying value. As a result, we concluded that the goodwill assigned to the Potash reporting unit was not impaired, but could be at risk of future impairment. We continue to believe that our long-term financial goals will be achieved. As a result of our analysis, we did not take a goodwill impairment charge.

The Phosphates, Mosaic Fertilizantes, and Corporate, Eliminations and Other reporting units were evaluated and not considered at risk of goodwill impairment at October 31, 2018.

Assessing the potential impairment of goodwill involves certain assumptions and estimates in our model that are highly sensitive and include inherent uncertainties that are often interdependent and do not change in isolation such as product prices, raw material costs, WACC, and terminal value growth rate. If any of these are different from our assumptions, future tests may indicate an impairment of goodwill, which would result in non-cash charges, adversely affecting our results of operations.

Of the factors discussed above, WACC is more sensitive than others. Assuming that all other components of our fair value estimate remain unchanged, a change in the WACC would have the following effect on estimated fair values in excess of carrying values:

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	Excess at Current WACC	Sensitivity Analysis - Percent of Fair Values in Excess of Carrying Values			
		WACC Decreased by 50 Basis Points	WACC Decreased by 25 Basis Points	WACC Increased by 25 Basis Points	WACC Increased by 50 Basis Points
Potash Reporting Unit	18.0%	24.5%	21.3%	14.7%	11.3%

As of December 31, 2018, $153.9 million of goodwill was tax deductible.

11. FINANCING ARRANGEMENTS

Mosaic Credit Facility

On November 18, 2016, we entered into a new unsecured five-year credit facility of up to $2.72 billion (the “Mosaic Credit Facility”), which includes a $2.0 billion revolving credit facility and a $720 million term loan facility (the “Term Loan Facility”). The Mosaic Credit Facility is intended to serve as our primary senior unsecured bank credit facility. It increased, extended and replaced our prior unsecured credit facility, which consisted of a revolving facility of up to $1.5 billion (the “Prior Credit Facility”). Letters of credit outstanding under the Prior Credit Facility in the amount of approximately $18.3 million became letters of credit under the Mosaic Credit Facility. The maturity date of the Mosaic Credit Facility, including final maturity of the term loan thereunder, is November 18, 2021. The Term Loan Facility is described below under “Long-Term Debt, including Current Maturities.”

The Mosaic Credit Facility has cross-default provisions that, in general, provide that a failure to pay principal or interest under any one item of other indebtedness in excess of $50 million or $75 million for multiple items of other indebtedness, or breach or default under such indebtedness that permits the holders thereof to accelerate the maturity thereof, will result in a cross-default.

The Mosaic Credit Facility requires Mosaic to maintain certain financial ratios, including a ratio of Consolidated Indebtedness to Consolidated Capitalization Ratio (as defined) of no greater than 0.65 to 1.0 as well as a minimum Interest Coverage Ratio (as defined) of not less than 3.0 to 1.0. We were in compliance with these ratios as of December 31, 2018.

The Mosaic Credit Facility also contains other events of default and covenants that limit various matters. These provisions include limitations on indebtedness, liens, investments and acquisitions (other than capital expenditures), certain mergers, certain sales of assets and other matters customary for credit facilities of this nature.

As of December 31, 2018, we had outstanding letters of credit that utilized a portion of the amount available for revolving loans under the Mosaic Credit Facility of $14.3 million. At December 31, 2017, we had outstanding letters of credit of $15.4 million. The net available borrowings for revolving loans under the Mosaic Credit Facility as of December 31, 2018 and 2017 were approximately $1.99 billion and $1.98 billion, respectively. Unused commitment fees under the Mosaic Credit Facility and Prior Credit Facility accrued at an average annual rate of 0.20% for 2018, 0.16% for 2017, and 0.13% for 2016, generating expenses of $4.0 million, $3.3 million and $2.0 million, respectively.

Short-Term Debt

Short-term debt consists of the revolving credit facility under the Mosaic Credit Facility, under which there were no borrowings as of December 31, 2018, and various other short-term borrowings related to our related to our international operations in India, China and Brazil These other short-term borrowings outstanding were $11.5 million and $6.1 million as of December 31, 2018 and 2017, respectively.

We had additional outstanding bilateral letters of credit of $54.4 million as of December 31, 2018, which includes $50.0 million as required by the 2015 Consent Decrees as described further in Note 14 of our Consolidated Financial Statements.

Long-Term Debt, including Current Maturities

On November 13, 2017, we issued new senior notes consisting of $550 million aggregate principal amount of 3.250% senior notes due 2022 and $700 million aggregate principal amount of 4.050% senior notes due 2027 (collectively, the “Senior Notes of 2017”). Proceeds from the Senior Notes of 2017 were used to fund the cash portion of the purchase price of the

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Acquisition paid at closing, transactions costs and expenses, and to fund a portion of the prepayment of the Term Loan Facility.

The Mosaic Credit Facility included the Term Loan Facility, under which we borrowed $720 million. The proceeds were used to prepay a prior term loan facility. In 2018, we prepaid the outstanding balance of $684 million under the Term Loan Facility, without premium or penalty.

We have additional senior notes outstanding, consisting of (i) $900 million aggregate principal amount of 4.25% senior notes due 2023, $500 million aggregate principal amount of 5.45% senior notes due 2033, and $600 million aggregate principal amount of 5.625% senior notes due 2043 (collectively, the “Senior Notes of 2013”); and (ii) $450 million aggregate principal amount of 3.750% senior notes due 2021 and $300 million aggregate principal amount of 4.875% senior notes due 2041 (collectively, the “Senior Notes of 2011”).

The Senior Notes of 2011, the Senior Notes of 2013 and the Senior Notes of 2017 are Mosaic’s senior unsecured obligations and rank equally in right of payment with Mosaic’s existing and future senior unsecured indebtedness. The indenture governing these notes contains restrictive covenants limiting debt secured by liens, sale and leaseback transactions and mergers, consolidations and sales of substantially all assets, as well as other events of default.

Two debentures issued by Mosaic Global Holdings, Inc., one of our consolidated subsidiaries, the first due in 2018 (the “2018 Debentures”), was paid off on the maturity date of August 1, 2018, and the second due in 2028 (the “2028 Debentures”), remains outstanding with balance of $147.1 million, as of December 31, 2018. The indentures governing the 2028 Debentures also contain restrictive covenants limiting debt secured by liens, sale and leaseback transactions and mergers, consolidations and sales of substantially all assets, as well as events of default. The obligations under the 2028 Debentures are guaranteed by the Company and several of its subsidiaries.

Long-term debt primarily consists of unsecured notes, term loans, capital leases, unsecured debentures and secured notes. Long-term debt as of December 31, 2018 and 2017, respectively, consisted of the following:

(in millions)	December 31, 2018 Stated Interest Rate	December 31, 2018 Effective Interest Rate	Maturity Date	December 31, 2018 Stated Value	Combination Fair Market Value Adjustment	Discount on Notes Issuance	December 31, 2018 Carrying Value	December 31, 2017 Stated Value	Combination Fair Market Value Adjustment	Discount on Notes Issuance	December 31, 2017 Carrying Value
Unsecured notes	3.25% - 5.63%	5.01%	2021-2043	$4,000.0	$—	$(7.3)	$3,992.7	$4,000.0	$—	$(8.5)	$3,991.5
Unsecured debentures	7.30%	7.19%	2028	147.1	1.1	—	148.2	236.1	1.4	—	237.5
Term loan[(a)]	Libor plus 1.25%	Variable	2021	—	—	—	—	684.0	—	—	684.0
Capital leases	2.24% - 19.95%	4.00%	2019-2030	302.2	—	—	302.2	326.6	—	—	326.6
Other[(b)]	2.50% - 9.98%	7.98%	2021-2026	58.0	16.4	—	74.4	(18.0)	—	—	(18.0)
Total long-term debt				4,507.3	17.5	(7.3)	4,517.5	5,228.7	1.4	(8.5)	5,221.6
Less current portion				24.7	2.3	(1.0)	26.0	344.2	0.4	(1.1)	343.5
Total long-term debt, less current maturities				$4,482.6	$15.2	$(6.3)	$4,491.5	$4,884.5	$1.0	$(7.4)	$4,878.1

(a) Term loan facility is pre-payable.

(b) Includes deferred financing fees related to our long term debt.

Scheduled maturities of long-term debt are as follows for the periods ending December 31:

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(in millions)	
2019	$26.0
2020	39.2
2021	485.8
2022	580.4
2023	962.8
Thereafter	2,423.3
Total	$4,517.5

12. MARKETABLE SECURITIES HELD IN TRUSTS

In August 2016, Mosaic deposited $630 million into two trust funds (together, the "RCRA Trusts") created to provide additional financial assurance in the form of cash for the estimated costs ("Gypstack Closure Costs") of closure and long-term care of our Florida and Louisiana phosphogypsum management systems ("Gypstacks"), as described further in Note 14 of our Notes to Consolidated Financial Statements. Our actual Gypstack Closure Costs are generally expected to be paid by us in the normal course of our Phosphate business; however, funds held in each of the RCRA Trusts can be drawn by the applicable governmental authority in the event we cannot perform our closure and long term care obligations. When our estimated Gypstack Closure Costs with respect to the facilities associated with a RCRA Trust are sufficiently lower than the amount on deposit in that RCRA Trust, we have the right to request that the excess funds be released to us. The same is true for the RCRA Trust balance remaining after the completion of our obligations, which will be performed over a period that may not end until three decades or more after a Gypstack has been closed. The investments held by the RCRA Trusts are managed by independent investment managers with discretion to buy, sell, and invest pursuant to the objectives and standards set forth in the related trust agreements. Amounts reserved to be held or held in the RCRA Trusts (including losses or reinvested earnings) are included in other assets on our Condensed Consolidated Balance Sheets.

The RCRA Trusts hold investments, which are restricted from our general use, in marketable debt securities classified as available-for-sale and are carried at fair value. As a result, unrealized gains and losses are included in other comprehensive income until realized, unless it is determined that the carrying value of an investment is impaired on an other-than-temporary basis. There were no other-than-temporary impairment write-downs on available-for-sale securities during the year ended December 31, 2018.

We review the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy. We determine the fair market values of our available-for-sale securities and certain other assets based on the fair value hierarchy described below:

Level 1: Values based on unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

Level 2: Values based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-based valuation techniques for which all significant assumptions are observable in the market.

Level 3: Values generated from model-based techniques that use significant assumptions not observable in the market. These unobservable assumptions reflect our own estimates of assumptions that market participants would use in pricing the asset or liability. Valuation techniques include use of option pricing models, discounted cash flow models and similar techniques.

The estimated fair value of the investments in the RCRA Trusts is as of December 31, 2018 and December 31, 2017 are as follows:

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	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Level 1				
Cash and cash equivalents	$4.0	$ —	$ —	$4.0
Level 2				
Corporate debt securities	180.8	0.3	(4.3)	176.8
Municipal bonds	186.1	0.5	(3.4)	183.2
U.S. government bonds	262.1	3.3	—	265.4
Total	$633.0	$ 4.1	$ (7.7)	$629.4

	December 31, 2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Level 1				
Cash and cash equivalents	$1.2	$ —	$ —	$1.2
Level 2				
Corporate debt securities	186.1	0.4	(2.2)	184.3
Municipal bonds	184.5	0.5	(2.7)	182.3
U.S. government bonds	261.7	—	(4.4)	257.3
Total	$633.5	$ 0.9	$ (9.3)	$625.1

The following tables show gross unrealized losses and fair values of the RCRA Trusts' available-for-sale securities that have been in a continuous unrealized loss position deemed to be temporary as of December 31, 2018 and December 31, 2017.

	December 31, 2018 Less than 12 months		December 31, 2017 Less than 12 months	
	Fair Value	Gross Unrealized Losses[(a)]	Fair Value	Gross Unrealized Losses[(a)]
Corporate debt securities	$43.9	$ (0.6)	$44.3	$ (0.3)
Municipal bonds	12.3	—	64.5	(0.5)
U.S. government bonds	—	—	255.0	(4.4)
Total	$56.2	$ (0.6)	$363.8	$ (5.2)

	December 31, 2018 Greater than 12 months		December 31, 2017 Greater than 12 months	
	Fair Value	Gross Unrealized Losses[(a)]	Fair Value	Gross Unrealized Losses[(a)]
Corporate debt securities	$103.4	$ (3.7)	$100.4	$ (1.9)
Municipal bonds	117.5	(3.4)	83.3	(2.2)
U.S. government bonds	—	—	—	—
Total	$220.9	$ (7.1)	$183.7	$ (4.1)

(a) Represents the aggregate of the gross unrealized losses that have been in a continuous unrealized loss position as of December 31, 2018 and December 31, 2017.

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The following table summarizes the balance by contractual maturity of the available-for-sale debt securities invested by the RCRA Trusts as of December 31, 2018. Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations before the underlying contracts mature.

	December 31, 2018
Due in one year or less	$ 37.3
Due after one year through five years	148.8
Due after five years through ten years	407.0
Due after ten years	32.3
Total debt securities	$ 625.4

For the twelve months ended December 31, 2018 realized gains and (losses), were $0.3 million and $(13.5) million, respectively. For the twelve months ended December 31, 2017, realized gains and (losses) were $4.7 million and $(3.5) million, respectively.

13. INCOME TAXES

In preparing our Consolidated Financial Statements, we utilize the asset and liability approach in accounting for income taxes. We recognize income taxes in each of the jurisdictions in which we have a presence. For each jurisdiction, we estimate the actual amount of income taxes currently payable or receivable, as well as deferred income tax assets and liabilities attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The provision for income taxes for 2018, 2017 and 2016, consisted of the following:

	Years Ended December 31,		
(in millions)	2018	2017	2016
Current:			
Federal	$24.5	$(167.6)	$(41.7)
State	1.8	14.9	(15.9)
Non-U.S.	147.2	31.0	94.9
Total current	173.5	(121.7)	37.3
Deferred:			
Federal	(105.1)	602.3	(147.9)
State	9.9	(39.9)	3.9
Non-U.S.	(1.2)	54.2	32.5
Total deferred	(96.4)	616.6	(111.5)
(Benefit from) provision for income taxes	$77.1	$494.9	$(74.2)

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The components of earnings from consolidated companies before income taxes, and the effects of significant adjustments to tax computed at the federal statutory rate, were as follows:

(in millions)	Years Ended December 31, 2018	2017	2016
United States earnings (loss)	$322.7	$(82.5)	$(96.4)
Non-U.S. earnings	228.8	456.5	338.8
Earnings from consolidated companies before income taxes	$551.5	$374.0	$242.4
Computed tax at the U.S. federal statutory rate	21.0 %	35.0 %	35.0 %
State and local income taxes, net of federal income tax benefit	2.0 %	(0.1)%	(6.1)%
Percentage depletion in excess of basis	(6.7)%	(13.2)%	(34.4)%
Impact of non-U.S. earnings	11.8 %	(46.9)%	(4.0)%
Change in valuation allowance	(15.2)%	148.8 %	7.7 %
Resolution of uncertain tax positions	(0.4)%	— %	(34.9)%
Share-based excess cost/(benefits)	0.7 %	2.0 %	2.2 %
Other items (none in excess of 5% of computed tax)	0.8 %	6.7 %	3.9 %
Effective tax rate	14.0 %	132.3 %	(30.6)%

2018 Effective Tax Rate

In the year ended December 31, 2018, there were three types of items impacting the effective tax rate; 1) items attributable to ordinary business operations during the year, 2) other items specific to the period, and 3) impacts recorded due to the U.S. Tax Cuts and Jobs Act (“The Act”).

The tax impact of our ordinary business operations is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, changes in valuation allowances and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a cost of $0.7 million. This relates to various items including: a benefit of ($30.6) million related to revised valuation allowances on foreign tax credits, a $12.2 million cost as a result of revisions to the provisional estimates related to The Act, a $15.0 million cost for withholding taxes related to undistributed earnings, a cost of $11.7 million for valuation allowances in foreign jurisdictions, a benefit of ($8.6) million related to release of the sequestration on future AMT refunds, and other miscellaneous benefits of $1.0 million.

Impacts of the Tax Cuts and Jobs Act

On December 22, 2017, The Act was enacted, significantly altering U.S. corporate income tax law. The SEC issued Staff Accounting Bulletin 118, which allows companies to record reasonable estimates of enactment impacts where the underlying analysis and calculations are not yet complete (“Provisional Estimates”). The Provisional Estimates must be finalized within a one-year measurement period. In the period ending December 31, 2017, we recorded Provisional Estimates of the impact of The Act of $457.5 million related to several key changes in the law. As of December 31, 2018, the impacts of The Act have been finalized. All future impacts of future issued guidance will be appropriately accounted for in the period in which the law is enacted.

The Act imposed a one-time tax on “deemed” repatriation of foreign subsidiaries’ earnings and profits. The repatriation resulted in an estimated non-cash charge of $107.7 million. The charge was offset by a $202.6 million, non-cash reduction in the deferred tax liability related to certain undistributed earnings. Both of these items were recorded in the period ending December 31, 2017. The December 31, 2017 provisional estimates have been revised and finalized in the period ending December 31, 2018 resulting in an additional benefit of $9.0 million of which a cost of $12.2 million is included in the tax expense specific to the period and a benefit of $21.2 million is included in the annual effective tax rate. However, the benefit of $21.2 million results from certain provisions of The Act that pertain to the repatriation that, based on proposed guidance from the U.S. Internal Revenue Service, we anticipate could reverse when the regulations are finalized.

As of December 31, 2017, we recognized a $2.3 million non-cash, deferred tax benefit related to the reduction of the U.S. federal rate from 35 percent to 21 percent.
The Act significantly modified the U.S. taxation of foreign earnings and the treatment of the related foreign tax credits. In December 2017, as a result of these changes, we recorded valuation allowances against our foreign tax credits and our anticipatory foreign tax credits of $105.8 million and $440.3 million, respectively. As of December 2018, we concluded that the foreign tax credits would more likely than not be utilized and the related valuation allowance of $105.8 million was reversed as a benefit. This benefit arose due to both revisions in the estimated impact of The Act and estimates with respect to future forecasted income. Of the $105.8 million benefit, $30.6 million was recorded as tax benefit specific to the period.
As of December 31, 2018, we have recorded a valuation allowance recorded against U.S. branch basket foreign tax credits of $156.8 million and anticipatory foreign tax credits of $361.6 million.
The Act repeals the corporate alternative minimum tax, or AMT, system and allows for the cash refund of excess AMT credits. As of December 31, 2017, the refundable AMT amounts were subject to a set of federal budgeting rules where a certain portion of the refundable amount would permanently be disallowed (the “Sequestration Rules”). We estimated that we would receive a cash refund of $121.5 million net of an $8.6 million charge related to the Sequestration Rules. In 2018, guidance was released that concluded that the Sequestration Rules do not apply to AMT credits related to The Act. As of December 31, 2018, we estimate that we will receive a cash refund of $100.4 million and the sequestration charge of $8.6 million recorded at December 31, 2017 has been reversed. The estimated refundable alternative minimum tax credit was included in other non-current assets at both December 31, 2018 and December 31, 2017.
The Act introduced a new category of taxable income called global intangible low-taxed income (“GILTI”). No provisional estimates were recorded as of December 31, 2017 for the impacts of GILTI since we had not completed our full analysis of that provision of The Act. We have included GILTI in our December 31, 2018 provision for income taxes, which did not have a material impact to the Company for the current year. We have elected an accounting policy to record any GILTI liabilities as period costs.
2017 Effective Tax Rate
In the year ended December 31, 2017, there were three types of items impacting the effective tax rate; 1) items attributable to ordinary business operations during the year, 2) other items specific to the period, and 3) impacts recorded due to the enactment of the U.S. Tax Cuts and Jobs Act.
The tax impact of our ordinary business operations is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.
Tax expense specific to the period included a cost of $15.1 million related to a $10.4 million pre-tax charge resulting from the resolution of a royalty matter with the government of Saskatchewan and related royalty impacts, a $7.5 million cost related to share-based compensation, and an expense of $6.7 million related to the effect on deferred income tax liabilities of an increase in the statutory tax rate for one of our equity method investments, offset by a $14.9 million U.S. state deferred benefit and other miscellaneous benefits of $6.1 million.
2016 Effective Tax Rate
In the year ended December 31, 2016, tax expense specific to the period included a benefit of $54.2 million, which includes a domestic benefit of $85.8 million related to the resolution of an Advanced Pricing Agreement, which is a tax treaty-based process, partially offset by a $23.3 million expense related to distributions from certain non-U.S. subsidiaries and $8.3 million of expense primarily related to share-based excess cost.
During 2016, our income tax rate was favorably impacted by the mix of earnings across the jurisdictions in which we operate and by a benefit associated with depletion when compared to the year ended December 31, 2015. Our income tax rate is lower in 2016 compared to 2015 because our deductions are relatively fixed in dollars, while our profitability has been reduced; therefore, the deductions are a larger percentage of income.

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Significant components of our deferred tax liabilities and assets as of December 31 were as follows:

(in millions)	December 31, 2018	2017
Deferred tax liabilities:		
Depreciation and amortization	$317.3	$864.2
Depletion	390.8	260.9
Partnership tax basis differences	64.6	67.6
Undistributed earnings of non-U.S. subsidiaries	15.0	15.0
Other liabilities	10.3	150.6
Total deferred tax liabilities	$798.0	$1,358.3
Deferred tax assets:		
Alternative minimum tax credit carryforwards	$76.5	$46.8
Capital loss carryforwards	3.0	0.1
Foreign tax credit carryforwards	493.5	322.9
Net operating loss carryforwards	408.9	112.0
Pension plans and other benefits	33.4	2.1
Asset retirement obligations	187.6	174.1
Deferred revenue	—	252.0
Other assets	388.8	169.7
Subtotal	1,591.7	1,079.7
Valuation allowance	1,530.5	584.1
Net deferred tax assets	61.2	495.6
Net deferred tax liabilities	$(736.8)	$(862.7)

We have certain entities that are taxed in both their local currency jurisdiction and the U.S. As a result, we have deferred tax balances for both jurisdictions. As of December 31, 2018 and 2017, these non-U.S. deferred taxes are offset by approximately $361.6 million and $440.3 million, respectively, of anticipated foreign tax credits included within our depreciation and depletion components of deferred tax liabilities above. Due to The Act, we have recorded a valuation allowance against the anticipated foreign tax credits of $361.6 million and $440.3 million for December 31, 2018 and 2017, respectively.

As of December 31, 2018, we had estimated carryforwards for tax purposes as follows: alternative minimum tax credits of $76.5 million, plus an additional $100.4 million of alternative minimum tax credits that we estimate will be refundable due to The Act, net operating losses of $1,892.5 million, foreign tax credits of $493.5 million and $2.2 million of non-U.S. business credits. These carryforward benefits may be subject to limitations imposed by the Internal Revenue Code, and in certain cases, provisions of foreign law. As discussed above, we estimate that $100.4 million of the alternative minimum tax credit carryforwards will be refunded while the remaining $76.5 million are expected to be utilized to offset future U.S. federal tax liabilities. Approximately $869.5 million of our net operating loss carryforwards relate to Brazil and can be carried forward indefinitely but are limited to 30 percent of taxable income each year. The majority of the remaining net operating loss carryforwards relate to certain U.S. states and can be carried forward for 20 years. Of the $493.5 million of foreign tax credits, approximately $39.3 million have an expiration date of 2023, approximately $232.6 million have an expiration date of 2026, and approximately $221.6 million have an expiration date of 2028. The realization of our foreign tax credit carryforwards is dependent on market conditions, tax law changes, and other business outcomes including our ability to generate certain types of taxable income. As a result of changes in U.S. tax law due to The Act, the Company recorded valuation allowances against its branch basket foreign tax credits of $156.8 million at December 31, 2018.

The Act imposed a one-time tax on the “deemed” repatriation of foreign subsidiaries’ earnings and profits and establishes an exemption from U.S. tax for future dividends from foreign subsidiaries. As such, we are only subject to withholding tax on the actual repatriation of non-U.S. earnings. As of December 31, 2018, the company has recorded a $15 million deferred tax liability associated with the future repatriation of $300 million of undistributed earnings of non-U.S. subsidiaries.

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Valuation Allowance

In assessing the need for a valuation allowance, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. We evaluate our ability to realize the tax benefits associated with deferred tax assets by analyzing the relative impact of all the available positive and negative evidence regarding our forecasted taxable income using both historical and projected future operating results, the reversal of existing taxable temporary differences, taxable income in prior carry-back years (if permitted) and the availability of tax planning strategies. The ultimate realization of deferred tax assets is dependent upon the generation of certain types of future taxable income during the periods in which those temporary differences become deductible. In making this assessment, we consider the scheduled reversal of deferred tax liabilities, our ability to carry back the deferred tax asset, projected future taxable income, and tax planning strategies. A valuation allowance will be recorded in each jurisdiction in which a deferred income tax asset is recorded when it is more likely than not that the deferred income tax asset will not be realized. Changes in deferred tax asset valuation allowances typically impact income tax expense.

For the year ended December 31, 2018, the valuation allowance increased by $945.8 million, of which $956.2 million related to valuation allowances on the Vale acquisition and $30.7 million related to changes in the U.S. tax law imposed by The Act. The remaining amount relates to our conclusion that we are not more likely than not to use attributes at other foreign jurisdictions.

For the year ended December 31, 2017, the valuation allowance increased by $553.5 million, of which $546.1 million related to changes in the U.S. tax law imposed by The Act and the remaining amount is due to our conclusion that we are not more likely than not to use attributes at a Netherlands subsidiary.

For the year ended year ended December 31, 2016, the valuation allowance increased by $18.7 million primarily due to our conclusion that we are not more likely than not to use attributes at a Netherlands subsidiary and certain U.S. states.

Uncertain Tax Positions

Accounting for uncertain income tax positions is determined by prescribing a minimum probability threshold that a tax position must meet before a financial statement benefit is recognized. This minimum threshold is that a tax position is more likely than not to be sustained upon examination by the applicable taxing authority, including resolution of any related appeals or litigation processes, based on the technical merits of the position. The tax benefit to be recognized is measured as the largest amount of benefit that is greater than a fifty percent likelihood of being realized upon ultimate settlement.

As of December 31, 2018, we had $38.1 million of gross uncertain tax positions. If recognized, the benefit to our effective tax rate in future periods would be approximately $20.5 million of that amount. During 2018, we recorded gross increases in our uncertain tax positions of $1.2 million related to certain U.S. and non-U.S. tax matters, of which $0.7 million impacted the effective tax rate. This increase was offset by items not included in gross uncertain tax positions.

Based upon the information available as of December 31, 2018, it is reasonably possible that the amount of unrecognized tax benefits will change in the next twelve months; however, the change cannot reasonably be estimated.

	Years Ended December 31,		
(in millions)	2018	2017	2016
Gross unrecognized tax benefits, beginning of period	$39.3	$27.1	$98.6
Gross increases:			
Prior period tax positions	0.3	1.9	13.5
Current period tax positions	3.8	8.5	6.9
Gross decreases:			
Prior period tax positions	(2.9)	—	(91.6)
Currency translation	(2.4)	1.8	(0.3)
Gross unrecognized tax benefits, end of period	$38.1	$39.3	$27.1

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We recognize interest and penalties related to unrecognized tax benefits as a component of our income tax expense. Interest and penalties accrued in our Consolidated Balance Sheets as of December 31, 2018 and 2017 are $4.9 million and $4.1 million, respectively, and are included in other noncurrent liabilities in the Consolidated Balance Sheets.
We operate in multiple tax jurisdictions, both within the United States and outside the United States, and face audits from various tax authorities regarding transfer pricing, deductibility of certain expenses, and intercompany transactions, as well as other matters. With few exceptions, we are no longer subject to examination for tax years prior to 2012.
Mosaic is continually under audit by various tax authorities in the normal course of business. Such tax authorities may raise issues contrary to positions taken by the Company. If such positions are ultimately not sustained by the Company this could result in material assessments to the Company. The costs related to defending, if needed, such positions on appeal or in court may be material. The Company believes that any issues considered are properly accounted for.
We are currently under audit by the Canada Revenue Agency for the tax years ended May 31, 2012 through December 31, 2014 and 2015. Based on the information available, we do not anticipate significant changes to our unrecognized tax benefits as a result of these examinations other than the amounts discussed above.

14. ACCOUNTING FOR ASSET RETIREMENT OBLIGATIONS

We recognize our estimated asset retirement obligations ("AROs") in the period in which we have an existing legal obligation associated with the retirement of a tangible long-lived asset, and the amount of the liability can be reasonably estimated. The ARO is recognized at fair value when the liability is incurred with a corresponding increase in the carrying amount of the related long lived asset. We depreciate the tangible asset over its estimated useful life. The liability is adjusted in subsequent periods through accretion expense which represents the increase in the present value of the liability due to the passage of time. Such depreciation and accretion expenses are included in cost of goods sold for operating facilities and other operating expense for indefinitely closed facilities.
Our legal obligations related to asset retirement require us to: (i) reclaim lands disturbed by mining as a condition to receive permits to mine phosphate ore reserves; (ii) treat low pH process water in Gypstacks to neutralize acidity; (iii) close and monitor Gypstacks at our Florida and Louisiana facilities at the end of their useful lives; (iv) remediate certain other conditional obligations; (v) remove all surface structures and equipment, plug and abandon mine shafts, contour and revegetate, as necessary, and monitor for five years after closing our Carlsbad, New Mexico facility and (vi) decommission facilities, manage tailings and execute site reclamation at our Saskatchewan potash mines at the end of their useful lives; (vii) de-commission mines in Brazil and Peru acquired as part of the Acquisition and (viii) de-commission plant sites and close Gypstacks in Brazil, also as part of the Acquisition. The estimated liability for these legal obligations is based on the estimated cost to satisfy the above obligations which is discounted using a credit-adjusted risk-free rate.
A reconciliation of our AROs is as follows:

	Years Ended December 31,	
(in millions)	2018	2017
AROs, beginning of period	$859.3	$849.9
Liabilities acquired in the Acquisition	258.9	—
Liabilities incurred	27.8	27.1
Liabilities settled	(69.6)	(64.8)
Accretion expense	48.0	25.7
Revisions in estimated cash flows	78.2	15.7
Foreign currency translation	(42.5)	5.7
AROs, end of period	1,160.1	859.3
Less current portion	136.3	98.1
	$1,023.8	$761.2

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North America Gypstack Closure Costs

A majority of our ARO relates to Gypstack Closure Costs in Florida and Louisiana. For financial reporting purposes, we recognize our estimated Gypstack Closure Costs at their present value. This present value determined for financial reporting purposes is reflected on our Consolidated Balance Sheets in accrued liabilities and other noncurrent liabilities. As of December 31, 2018, and December 31, 2017, the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet was approximately $578.4 million and $529.7 million, respectively.

As discussed below, we have arrangements to provide financial assurance for the estimated Gypstack Closure Costs associated with our facilities in Florida and Louisiana.

EPA RCRA Initiative. On September 30, 2015, we and our subsidiary, Mosaic Fertilizer, LLC ("Mosaic Fertilizer"), reached agreements with the U.S. Environmental Protection Agency ("EPA"), the U.S. Department of Justice ("DOJ"), the Florida Department of Environmental Protection ("FDEP") and the Louisiana Department of Environmental Quality ("LDEQ") on the terms of two consent decrees (collectively, the "2015 Consent Decrees") to resolve claims relating to our management of certain waste materials onsite at our Riverview, New Wales, Mulberry, Green Bay, South Pierce and Bartow fertilizer manufacturing facilities in Florida and our Faustina and Uncle Sam facilities in Louisiana. This followed a 2003 announcement by the EPA Office of Enforcement and Compliance Assurance that it would be targeting facilities in mineral processing industries, including phosphoric acid producers, for a thorough review under the U.S. Resource Conservation and Recovery Act ("RCRA") and related state laws. As discussed below, a separate consent decree was previously entered into with EPA and the FDEP with respect to RCRA compliance at the Plant City, Florida phosphate concentrates facility (the "Plant City Facility") that we acquired as part of our acquisition (the "CF Phosphate Assets Acquisition") of the Florida phosphate assets and assumption of certain related liabilities of CF Industries, Inc. ("CF").

The remaining monetary obligations under the 2015 Consent Decrees include:

- Modification of certain operating practices and undertaking certain capital improvement projects over a period of several years that are expected to result in capital expenditures likely to exceed $200 million in the aggregate.
- Provision of additional financial assurance for the estimated Gypstack Closure Costs for Gypstacks at the covered facilities. The RCRA Trusts are discussed in Note 12 to our Consolidated Financial Statements. In addition, we have agreed to guarantee the difference between the amounts held in each RCRA Trust (including any earnings) and the estimated closure and long-term care costs.

As of December 31, 2018, the undiscounted amount of our Gypstack Closure Costs ARO associated with the facilities covered by the 2015 Consent Decrees, determined using the assumptions used for financial reporting purposes, was approximately $1.5 billion, and the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet for those facilities was approximately $457.1 million.

Plant City and Bonnie Facilities. As part of the CF Phosphate Assets Acquisition, we assumed certain AROs related to Gypstack Closure Costs at both the Plant City Facility and a closed Florida phosphate concentrates facility in Bartow, Florida (the "Bonnie Facility") that we acquired. Associated with these assets are two related financial assurance arrangements for which we became responsible and that provides sources of funds for the estimated Gypstack Closure Costs for these facilities, pursuant to federal or state law: the government entities can draw against such amounts in the event we cannot perform such closure activities. One was initially a trust (the "Plant City Trust") established to meet the requirements under a consent decree with the EPA and the FDEP with respect to RCRA compliance at Plant City that also satisfied Florida financial assurance requirements at that site. Beginning in September 2016, as a substitute for the financial assurance provided through the Plant City Trust, we have provided financial assurance for Plant City in the form of a surety bond (the "Plant City Bond"). The amount of the Plant City Bond is $233.7 million, at December 31, 2018, which reflects our closure cost estimates at that date. The other was also a trust fund (the "Bonnie Facility Trust") established to meet the requirements under Florida financial assurance regulations that apply to the Bonnie Facility. On July 27, 2018, we received $21.0 million from the Bonnie Facility Trust by substituting the trust fund for a financial test mechanism ("Bonnie Financial Test") supported by a corporate guarantee as allowed by state regulations. Both financial assurance funding obligations require estimates of future expenditures that could be impacted by refinements in scope, technological developments, new information, cost inflation, changes in regulations, discount rates and the timing of activities. Under our current approach to satisfying applicable requirements, additional

financial assurance would be required in the future if increases in cost estimates exceed the face amount of the Plant City Bond or the amount supported by the Bonnie Financial Test.

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As of December 31, 2018, and December 31, 2017, the aggregate amounts of AROs associated with the Plant City Facility and Bonnie Facility gypstack closure costs included in our consolidated balance sheet were $109.2 million and $97.7 million, respectively. The aggregate amount represented by the Plant City Bond exceeds the aggregate amount of ARO associated with that Facility. This is because the amount of financial assurance we are required to provide represents the aggregate undiscounted estimated amount to be paid by us in the normal course of our Phosphates business over a period that may not end until three decades or more after the Gypstack has been closed, whereas the ARO included in our Consolidated Balance Sheet reflects the discounted present value of those estimated amounts.

15. ACCOUNTING FOR DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

We periodically enter into derivatives to mitigate our exposure to foreign currency risks, interest rate movements and the effects of changing commodity prices. We record all derivatives on the Consolidated Balance Sheets at fair value. The fair value of these instruments is determined by using quoted market prices, third party comparables, or internal estimates. We net our derivative asset and liability positions when we have a master netting arrangement in place. Changes in the fair value of the foreign currency, commodity and freight derivatives are immediately recognized in earnings. As of December 31, 2018, and 2017, the gross asset position of our derivative instruments was $13.4 million and $15.6 million, respectively, and the gross liability position of our liability instruments was $89.4 million and $26.7 million, respectively. Due to the Acquisition, our foreign currency derivatives have increased in 2018.

We do not apply hedge accounting treatments to our foreign currency exchange contracts, commodities contracts, or freight contracts. Unrealized gains and (losses) on foreign currency exchange contracts used to hedge cash flows related to the production of our products are included in cost of goods sold in the Consolidated Statements of Earnings. Unrealized gains and (losses) on commodities contracts and certain forward freight agreements are also recorded in cost of goods sold in the Consolidated Statements of Earnings. Unrealized gains or (losses) on foreign currency exchange contracts used to hedge cash flows that are not related to the production of our products are included in the foreign currency transaction gain/(loss) caption in the Consolidated Statements of Earnings.

We apply fair value hedge accounting treatment to our fixed-to-floating interest rate contracts. Under these arrangements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The mark-to-market of these fair value hedges is recorded as gains or losses in interest expense. These fair value hedges are considered to be highly effective and, thus, as of December 31, 2018, the impact on earnings due to hedge ineffectiveness was immaterial. Consistent with Mosaic's intent to have floating rate debt as a portion of its outstanding debt, in December 2016 and the first quarter of 2017, we entered into four and five, respectively, fixed-to-floating interest rate swap agreements with a total notional amount of $310.0 million and $275.0 million, respectively, related to our Senior Notes due 2023.

In December 2016, we entered into forward starting interest rate swap agreements to hedge our exposure to changes in future interest rates related to an anticipated debt issuance to fund the cash portion of the Acquisition as described in Note 24. We did not apply hedge accounting treatment to these contracts, and we used cash to settle our obligation at the time of pricing of the related debt. In November 2017, we completed the debt issuance and settled all of our outstanding pre-issuance interest rate swap agreements. These agreements had a negative impact on pre-tax earnings of approximately $12 million for the year ended December 31, 2017.

The following is the total absolute notional volume associated with our outstanding derivative instruments:

(in millions of Units)

Instrument	Derivative Category	Unit of Measure	December 31, 2018	December 31, 2017
Foreign currency derivatives	Foreign Currency	US Dollars	2,091.7	813.5
Interest rate derivatives	Interest Rate	US Dollars	585.0	585.0
Natural gas derivatives	Commodity	MMbtu	52.2	43.0

Credit-Risk-Related Contingent Features

Certain of our derivative instruments contain provisions that are governed by International Swap and Derivatives Association agreements with the counterparties. These agreements contain provisions that allow us to settle for the net amount between

payments and receipts, and also state that if our debt were to be rated below investment grade, certain counterparties to the derivative instruments could request full collateralization on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a liability position as of December 31, 2018, and 2017 was $37.9 million and $15.0 million, respectively. We have no cash collateral posted in association with these contracts. If the credit-risk-related contingent features underlying these agreements were triggered on December 31, 2018, we would have been required to post an additional $36.8 million of collateral assets, which are either cash or U.S. Treasury instruments, to the counterparties.

Counterparty Credit Risk

We enter into foreign exchange, certain commodity and interest rate derivatives, primarily with a diversified group of highly rated counterparties. We continually monitor our positions and the credit ratings of the counterparties involved and limit the amount of credit exposure to any one party. While we may be exposed to potential losses due to the credit risk of non-performance by these counterparties, material losses are not anticipated. We closely monitor the credit risk associated with our counterparties and customers and to date have not experienced material losses.

16. FAIR VALUE MEASUREMENTS

Following is a summary of the valuation techniques for assets and liabilities recorded in our Consolidated Balance Sheets at fair value on a recurring basis:

Foreign Currency Derivatives—The foreign currency derivative instruments that we currently use are forward contracts and zero-cost collars, which typically expire within eighteen months. Most of the valuations are adjusted by a forward yield curve or interest rates. In such cases, these derivative contracts are classified within Level 2. Some valuations are based on exchange-quoted prices, which are classified as Level 1. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of cost of goods sold in our Corporate, Eliminations and Other segment, or foreign currency transaction (gain) loss. As of December 31, 2018 and 2017, the gross asset position of our foreign currency derivative instruments was $13.1 million and $15.4 million, respectively, and the gross liability position of our foreign currency derivative instruments was $62.2 million and $6.5 million, respectively.

Commodity Derivatives—The commodity contracts primarily relate to natural gas. The commodity derivative instruments that we currently use are forward purchase contracts, swaps, and three-way collars. The natural gas contracts settle using NYMEX futures or AECO price indexes, which represent fair value at any given time. The contracts' maturities and settlements are scheduled for future months and settlements are scheduled to coincide with anticipated gas purchases during those future periods. Quoted market prices from NYMEX and AECO are used to determine the fair value of these instruments. These market prices are adjusted by a forward yield curve and are classified within Level 2. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of cost of goods sold in our Corporate, Eliminations and Other segment. As of December 31, 2018 and 2017, the gross asset position of our commodity derivative instruments was $0.3 million and $0.1 million, respectively, and the gross liability position of our commodity derivative instruments was $17.7 million and $17.9 million, respectively.

Interest Rate Derivatives—We manage interest expense through interest rate contracts to convert a portion of our fixed-rate debt into floating-rate debt. We also enter into interest rate swap agreements to hedge our exposure to changes in future interest rates related to anticipated debt issuances. Valuations are based on external pricing sources and are classified as Level 2. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of interest expense. As of December 31, 2018 and 2017, the gross asset position of our interest rate swap instruments was zero and $0.1 million, respectively, and the gross liability position of our interest rate swap instruments was $9.5 million and $2.3 million, respectively.

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Financial Instruments

The carrying amounts and estimated fair values of our financial instruments are as follows:

	December 31,			
	2018		2017	
(in millions)	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Cash and cash equivalents	$847.7	$847.7	$2,153.5	$2,153.5
Accounts receivable	838.5	838.5	642.6	642.6
Accounts payable	780.9	780.9	540.9	540.9
Structured accounts payable arrangements	572.8	572.8	386.2	386.2
Short-term debt	11.5	11.5	6.1	6.1
Long-term debt, including current portion	4,517.5	4,554.6	5,221.6	5,431.8

For cash and cash equivalents, accounts receivable, net, accounts payable, structured accounts payable arrangements and short-term debt, the carrying amount approximates fair value because of the short-term maturity of those instruments. The fair value of long-term debt, including the current portion, is estimated using quoted market prices for the publicly registered notes and debentures, classified as Level 1 and Level 2, respectively, within the fair value hierarchy, depending on the market liquidity of the debt. For information regarding the fair value of our marketable securities held in trusts, see Note 12 of our Notes to Consolidated Financial Statements.

17. GUARANTEES AND INDEMNITIES

We enter into various contracts that include indemnification and guarantee provisions as a routine part of our business activities. Examples of these contracts include asset purchase and sale agreements, surety bonds, financial assurances to regulatory agencies in connection with reclamation and closure obligations, commodity sale and purchase agreements, and other types of contractual agreements with vendors and other third parties. These agreements indemnify counterparties for matters such as reclamation and closure obligations, tax liabilities, environmental liabilities, litigation and other matters, as well as breaches by Mosaic of representations, warranties and covenants set forth in these agreements. In many cases, we are essentially guaranteeing our own performance, in which case the guarantees do not fall within the scope of the accounting and disclosures requirements under U.S. GAAP.

Our more significant guarantees and indemnities are as follows:

Guarantees to Brazilian Financial Parties. From time to time, we issue guarantees to financial parties in Brazil for certain amounts owed the institutions by certain customers of Mosaic. The guarantees are for all or part of the customers' obligations. In the event that the customers default on their payments to the institutions and we would be required to perform under the guarantees, we have in most instances obtained collateral from the customers. We monitor the nonperformance risk of the counterparties and have noted no material concerns regarding their ability to perform on their obligations. The guarantees generally have a one-year term, but may extend up to two years or longer depending on the crop cycle, and we expect to renew many of these guarantees on a rolling twelve-month basis. As of December 31, 2018, we have estimated the maximum potential future payment under the guarantees to be $64.3 million. The fair value of our guarantees is immaterial to the Consolidated Financial Statements as of December 31, 2018 and 2017.

Other Indemnities. Our maximum potential exposure under other indemnification arrangements can range from a specified dollar amount to an unlimited amount, depending on the nature of the transaction. Total maximum potential exposure under these indemnification arrangements is not estimable due to uncertainty as to whether claims will be made or how they will be resolved. We do not believe that we will be required to make any material payments under these indemnity provisions.

Because many of the guarantees and indemnities we issue to third parties do not limit the amount or duration of our obligations to perform under them, there exists a risk that we may have obligations in excess of the amounts described above. For those guarantees and indemnities that do not limit our liability exposure, we may not be able to estimate what our liability would be until a claim is made for payment or performance due to the contingent nature of these arrangements.

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18. PENSION PLANS AND OTHER BENEFITS

We sponsor pension and postretirement benefits through a variety of plans including defined benefit plans, defined contribution plans, and postretirement benefit plans in North America and certain of our international locations. We reserve the right to amend, modify, or terminate the Mosaic sponsored plans at any time, subject to provisions of the Employee Retirement Income Security Act of 1974 (“ERISA”), prior agreements and our collective bargaining agreements.

Defined Benefit

We sponsor various defined benefit pension plans in the U.S. and in Canada. Benefits are based on different combinations of years of service and compensation levels, depending on the plan. Generally, contributions to the U.S. plans are made to meet minimum funding requirements of ERISA, while contributions to Canadian plans are made in accordance with Pension Benefits Acts instituted by the provinces of Saskatchewan and Ontario. Certain employees in the U.S. and Canada, whose pension benefits exceed Internal Revenue Code and Canada Revenue Agency limitations, respectively, are covered by supplementary non-qualified, unfunded pension plans.

We sponsor various defined benefit pension plans in Brazil, and we acquired through the Acquisition, multi-employer pension plans for certain of our Brazil associates. All our pension plans are governed by the Brazilian pension plans regulatory agency, National Superintendence of Supplementary Pensions (“PREVIC”). Our Brazil plans are not individually significant to the Company's consolidated financial statements after factoring in the multi-employer pension plan indemnification that we acquired through the Acquisition. We made contributions to these plans, net of indemnification, of $1.0 million during the year ended December 31, 2018.

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Accounting for Pension Plans

The year-end status of the North American pension plans was as follows:

(in millions)	Pension Plans Years Ended December 31, 2018	2017
Change in projected benefit obligation:		
Benefit obligation at beginning of period	$766.1	$713.5
Service cost	6.2	5.9
Interest cost	24.0	24.3
Actuarial (gain) loss	(48.3)	44.2
Currency fluctuations	(28.0)	24.0
Benefits paid	(46.4)	(45.8)
Projected benefit obligation at end of period	$673.6	$766.1
Change in plan assets:		
Fair value at beginning of period	$793.2	$715.6
Currency fluctuations	(30.7)	25.9
Actual return	(22.0)	85.8
Company contribution	7.1	11.7
Benefits paid	(46.4)	(45.8)
Fair value at end of period	$701.2	$793.2
Funded status of the plans as of the end of period	$27.6	$27.1
Amounts recognized in the consolidated balance sheets:		
Noncurrent assets	$40.5	$41.1
Current liabilities	(0.7)	(0.8)
Noncurrent liabilities	(12.2)	(13.2)
Amounts recognized in accumulated other comprehensive (income) loss		
Prior service costs	$16.9	$20.8
Actuarial loss	107.7	109.8

The accumulated benefit obligation for the defined benefit pension plans was $673.0 million and $765.1 million as of December 31, 2018 and 2017, respectively.

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The components of net annual periodic benefit costs and other amounts recognized in other comprehensive income include the following components:

(in millions)	Pension Plans Years Ended December 31,		
	2018	2017	2016
Net Periodic Benefit Cost			
Service cost	$6.2	$5.9	$5.8
Interest cost	24.0	24.3	25.1
Expected return on plan assets	(39.7)	(41.3)	(44.9)
Amortization of:			
Prior service cost	2.4	2.3	1.7
Actuarial loss	9.1	2.8	5.0
Preliminary net periodic benefit cost (income)	$2.0	$(6.0)	$(7.3)
Curtailment/settlement expense	1.2	2.4	6.2
Total net periodic benefit cost (income)	$3.2	$(3.6)	$(1.1)
Other Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income			
Prior service (credit) cost recognized in other comprehensive income	$(4.3)	$(3.8)	$8.9
Net actuarial loss (gain) recognized in other comprehensive income	5.0	(4.0)	(2.5)
Total recognized in other comprehensive income (loss)	$0.7	$(7.8)	$6.4
Total recognized in net periodic benefit (income) cost and other comprehensive income	$3.9	$(11.4)	$5.3

The estimated net actuarial (gain) loss and prior service cost (credit) for the pension plans and postretirement plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost in 2019 is $12.1 million.

The following estimated benefit payments, which reflect estimated future service are expected to be paid by the related plans in the years ending December 31:

(in millions)	Pension Plans Benefit Payments	Other Postretirement Plans Benefit Payments	Medicare Part D Adjustments
2019	$ 40.4	$ 4.2	$ 0.2
2020	41.1	4.2	0.2
2021	41.9	4.1	0.2
2022	42.8	3.9	0.2
2023	43.1	3.8	0.2
2024-2028	215.0	17.5	0.5

In 2019, we expect to contribute cash of at least $4.4 million to the pension plans to meet minimum funding requirements. Also in 2019, we anticipate contributing cash of $4.2 million to the postretirement medical benefit plans to fund anticipated benefit payments.

Plan Assets and Investment Strategies

The Company’s overall investment strategy is to obtain sufficient return and provide adequate liquidity to meet the benefit obligations of our pension plans. Investments are made in public securities to ensure adequate liquidity to support benefit payments. Domestic and international stocks and bonds provide diversification to the portfolio.

For the U.S. plans, we utilize an asset allocation policy that seeks to reduce funded status volatility over time. As such, the primary investment objective beyond accumulating sufficient assets to meet future benefit obligations is to monitor and

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manage the assets of the plan to better insulate the asset portfolio from changes in interest rates that impact the liabilities. This requires an interest rate management strategy to reduce the sensitivity in the plan's funded status and having a portion of the plan's assets invested in return-seeking strategies. Currently, our policy includes an 80% allocation to fixed income and 20% to return-seeking strategies. The plans also have de-risking glide paths that will increase this protection as funded status improves. Actual allocations may experience temporary fluctuations based on market movements and investment strategies.

For the Canadian pension plans the primary investment objective is to secure the promised pension benefits through capital preservation and appreciation to better manage the asset/liability gap and interest rate risk. A secondary investment objective is to most effectively manage investment volatility to reduce the variability of the Company's required contributions. The plans are expected to achieve an annual overall return, over a five year rolling period, consistent with or in excess of total fund benchmarks that reflect each plan's strategic allocations and respective market benchmarks at the individual asset class level. Management of the asset/liability gap of the plans and performance results are reviewed quarterly. Until September 2018, Mosaic had the four Canadian pension plans, two salaried and two hourly plans, managed in one master trust. In order to better match the assets with the liabilities of each plan, Mosaic decided to split the master trust into one trust for each plan. Currently, our policy includes an 80% allocation to fixed income and 20% to return-seeking strategies for the salaried plans and 60% allocation to fixed income and 40% to return-seeking strategies for the hourly plans. Actual allocations may experience temporary fluctuations based on market movements and investment strategies.

A significant amount of the assets are invested in funds that are managed by a group of professional investment managers through Mosaic's investment advisor. These funds are mainly commingled funds. Performance is reviewed by Mosaic management monthly by comparing each fund's return to a benchmark with an in-depth quarterly review presented by Mosaic's investment advisor to the Global Pension Investment Committee. We do not have significant concentrations of credit risk or industry sectors within the plan assets. Assets may be indirectly invested in Mosaic stock, but any risk related to this investment would be immaterial due to the insignificant percentage of the total pension assets that would be invested in Mosaic stock.

Fair Value Measurements of Plan Assets

The following tables provide fair value measurement, by asset class, of the Company's defined benefit plan assets for both the U.S. and Canadian plans:

(in millions)	December 31, 2018			
Pension Plan Asset Category	Total	Level 1	Level 2	Level 3
Cash	$12.0	$12.0	$—	$—
Equity securities[(a)]	172.9	—	172.9	—
Fixed income[(b)]	514.3	—	514.3	—
Private equity funds	2.0	—	—	2.0
Total assets at fair value	$701.2	$12.0	$687.2	$2.0

(in millions)	December 31, 2017			
Pension Plan Asset Category	Total	Level 1	Level 2	Level 3
Cash	$14.7	$14.7	$—	$—
Equity securities[(a)]	327.7	—	327.7	—
Fixed income[(b)]	447.8	—	447.8	—
Private equity funds	3.0	—	—	3.0
Total assets at fair value	$793.2	$14.7	$775.5	$3.0

(a) This class, which includes several funds, was invested approximately 39% in U.S. equity securities, 18% in Canadian equity securities, and 43% in international equity securities as of December 31, 2018, and 45% in U.S. equity securities, 25% in Canadian equity securities, and 30% in international equity securities as of December 31,

2017.

(b) This class, which includes several funds, was invested approximately 50% in corporate debt securities, 44% in governmental securities in the U.S. and Canada, and 6% in foreign entity debt securities as of December 31, 2018, and 55% in corporate debt securities, 42% in governmental securities in the U.S. and Canada, and 3% in foreign entity debt securities as of December 31, 2017.

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Rates and Assumptions

The approach used to develop the discount rate for the pension and postretirement plans is commonly referred to as the yield curve approach. Under this approach, we use a hypothetical curve formed by the average yields of available corporate bonds rated AA and above and match it against the projected benefit payment stream. Each category of cash flow of the projected benefit payment stream is discounted back using the respective interest rate on the yield curve. Using the present value of projected benefit payments, a weighted-average discount rate is derived.

The approach used to develop the expected long-term rate of return on plan assets combines an analysis of historical performance, the drivers of investment performance by asset class, and current economic fundamentals. For returns, we utilized a building block approach starting with inflation expectations and added an expected real return to arrive at a long-term nominal expected return for each asset class. Long-term expected real returns are derived from future expectations of the U.S. Treasury real yield curve.

Weighted average assumptions used to determine benefit obligations were as follows:

	Pension Plans Years Ended December 31,		
	2018	2017	2016
Discount rate	4.09%	3.51%	3.97%
Expected return on plan assets	5.14%	5.54%	5.54%
Rate of compensation increase	3.50%	3.50%	3.50%

Weighted-average assumptions used to determine net benefit cost were as follows:

	Pension Plans Years Ended December 31,		
	2018	2017	2016
Discount rate	3.51%	3.97%	4.17%
Service cost discount rate [(a)]	3.50%	4.02%	4.19%
Interest cost discount rate [(a)]	3.21%	3.44%	3.45%
Expected return on plan assets	5.54%	5.54%	5.66%
Rate of compensation increase	3.50%	3.50%	3.50%

(a) In 2016, we changed the method used to estimate the service and interest cost components of net periodic benefit cost for our defined benefit pension and other postretirement benefit plans by electing a full yield curve approach and applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. The impact of this change to our earnings and earnings per share was not material.

Defined Contribution Plans

Eligible salaried and non-union hourly employees in the U.S. participate in a defined contribution investment plan which permits employees to defer a portion of their compensation through payroll deductions and provides matching contributions. We match 100% of the first 3% of the participant’s contributed pay plus 50% of the next 3% of the participant’s contributed pay, subject to Internal Revenue Service limits. Participant contributions, matching contributions, and the related earnings immediately vest. Mosaic also provides an annual non-elective employer contribution feature for eligible salaried and non-union hourly employees based on the employee’s age and eligible pay. Participants are generally vested in the non-elective employer contributions after three years of service. In addition, a discretionary feature of the plan allows the Company to make additional contributions to employees. Certain union employees participate in a defined contribution retirement plan based on collective bargaining agreements.

Canadian salaried and non-union hourly employees participate in an employer funded plan with employer contributions similar to the U.S. plan. The plan provides a profit sharing component which is paid each year. We also sponsor one mandatory union plan in Canada. Benefits in these plans vest after two years of consecutive service.

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The expense attributable to defined contribution plans in the U.S. and Canada was $51.2 million, $54.3 million and $51.1 million for 2018, 2017 and 2016, respectively.

Postretirement Medical Benefit Plans

We provide certain health care benefit plans for certain retired employees ("Retiree Health Plans") which may be either contributory or non-contributory and contain certain other cost-sharing features such as deductibles and coinsurance. The North American Retiree Health Plans are unfunded and the projected benefit obligation was $35.3 million and $41.3 million as of December 31, 2018 and 2017, respectively. This liability should continue to decrease due to our limited exposure. The related income statement effects of the Retiree Health Plans are not material to the Company.

The year-end status of the Brazil postretirement medical benefit plans with a discount rate of 9.15% was as follows:

(in millions)	Postretirement Medical Benefits Years Ended December 31, 2018
Change in accumulated postretirement benefit obligation ("APBO"):	
APBO at beginning of year	$ 69.1
Service cost	1.5
Interest cost	6.8
Actuarial loss	13.0
Currency fluctuations	(13.1)
Benefits paid	(1.5)
APBO at end of year	$ 75.8
Change in plan assets:	
Company contribution	$ 1.5
Benefits paid	(1.5)
Fair value at end of year	$ —
Unfunded status of the plans as of the end of the year	$ (75.8)
Amounts recognized in the consolidated balance sheets:	
Current liabilities	$ (0.5)
Noncurrent liabilities	(75.3)
Amounts recognized in accumulated other comprehensive (income) loss	
Actuarial loss	$ 23.9

19. SHARE REPURCHASES

In May 2015, our Board of Directors authorized a $1.5 billion share repurchase program (the "2015 Repurchase Program"), allowing Mosaic to repurchase shares of our Common Stock through open market purchases, accelerated share repurchase arrangements, privately negotiated transactions or otherwise. The 2015 Repurchase Program has no set expiration date.

As of December 31, 2018, 15,765,025 shares of Common Stock have been repurchased under the 2015 Repurchase Program for an aggregate total of approximately $650 million. The remaining amount that could be repurchased under this program was $850 million as of December 31, 2018.

The extent to which we repurchase our shares and the timing of any such repurchases depend on a number of factors, including market and business conditions, the price of our shares, and corporate, regulatory and other considerations.

20. SHARE-BASED PAYMENTS

The Mosaic Company 2014 Stock and Incentive Plan (the "2014 Stock and Incentive Plan") was approved by our shareholders and became effective on May 15, 2014. It permits up to 25 million shares of common stock to be issued under share-based awards granted under the plan. The 2014 Stock and Incentive Plan provides for grants of stock options,

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restricted stock, restricted stock units, performance units and a variety of other share-based and non-share-based awards. Our employees, officers, directors, consultants, agents, advisors, and independent contractors, as well as other designated individuals, are eligible to participate in the 2014 Stock and Incentive Plan.

The Mosaic Company 2004 Omnibus Stock and Incentive Plan (the "Omnibus Plan"), which was approved by our shareholders and became effective in 2004 and subsequently amended, provided for the grant of shares and share options to employees for up to 25 million shares of common stock. While awards may no longer be made under the Omnibus Plan, it will remain in effect with respect to the awards that had been granted thereunder prior to its termination.

Mosaic settles stock option exercises, restricted stock units, and certain performance units and performance shares with newly issued common shares. The Compensation Committee of the Board of Directors administers the 2014 Stock and Incentive Plan and the Omnibus Plan subject to their respective provisions and applicable law.

Stock Options

Stock options are granted with an exercise price equal to the market price of our stock at the date of grant and have a ten-year contractual term. The fair value of each option award is estimated on the date of the grant using the Black-Scholes option valuation model. Stock options vest in equal annual installments in the first three years following the date of grant (graded vesting). Stock options are expensed on a straight-line basis over the required service period, based on the estimated fair value of the award on the date of grant, net of estimated forfeitures.

Valuation Assumptions

Assumptions used to calculate the fair value of stock options in each period are noted in the following table. Expected volatility is based on the simple average of implied and historical volatility using the daily closing prices of the Company's stock for a period equal to the expected term of the option. The risk-free interest rate is based on the U.S. Treasury rate at the time of the grant for instruments of comparable life. There were no stock options granted or issued in 2018.

	Years Ended December 31,	
	2017	2016
Weighted average assumptions used in option valuations:		
Expected volatility	35.35 %	42.54 %
Expected dividend yield	1.97 %	3.86 %
Expected term (in years)	7	7
Risk-free interest rate	2.34 %	1.65 %

A summary of the status of our stock options as of December 31, 2018, and activity during 2018, is as follows:

	Shares (in millions)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2017	2.6	$ 49.20		
Granted	—	—		
Cancelled	(0.2)	$ 91.88		
Outstanding as of December 31, 2018	2.4	$ 45.50	4.0	$ —
Exercisable as of December 31, 2018	2.0	$ 48.60	3.4	$ —

The weighted-average grant date fair value of options granted during 2017 and 2016 were $9.91 and $8.37, respectively. There were no options granted during 2018 and no options were exercised during 2018 or 2017.

Restricted Stock Units

Restricted stock units are issued to various employees, officers and directors at a price equal to the market price of our stock at the date of grant. The fair value of restricted stock units is equal to the market price of our stock at the date of

grant.

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Restricted stock units generally cliff vest after three years of continuous service and are expensed on a straight-line basis over the required service period, based on the estimated grant date fair value, net of estimated forfeitures.
A summary of the status of our restricted stock units as of December 31, 2018, and activity during 2018, is as follows:

	Shares (in millions)	Weighted Average Grant Date Fair Value Per Share
Restricted stock units as of December 31, 2017	1.2	$ 33.10
Granted	0.7	26.73
Issued and cancelled	(0.3)	$ 43.65
Restricted stock units as of December 31, 2018	1.6	$ 27.27

Performance Units
During the year ended December 31, 2018, 401,098 total shareholder return ("TSR") performance units were granted with a fair value of $28.09. Final performance units are awarded based on the increase or decrease, subject to certain limitations, in Mosaic's share price from the grant date to the third anniversary of the award, plus dividends (a measure of total shareholder return or TSR). The beginning and ending stock prices are based on a 30 trading-day average stock price. Holders of the awards must be employed at the end of the performance period in order for any units to vest, except in the event of death, disability or retirement at or after age 60, certain changes in control, and Committee or Board discretion as provided in the related award agreements.
The fair value of each TSR performance unit is determined using a Monte Carlo simulation. This valuation methodology utilizes assumptions consistent with those of our other share-based awards and a range of ending stock prices; however, the expected term of the awards is three years, which impacts the assumptions used to calculate the fair value of performance units as shown in the table below. TSR performance units are considered equity-classified fixed awards measured at grant-date fair value and not subsequently re-measured. TSR performance units cliff vest after three years of continuous service and are expensed on a straight-line basis over the required service period, based on the estimated grant date fair value of the award net of estimated forfeitures.
A summary of the assumptions used to estimate the fair value of TSR performance units is as follows:

	Years Ended December 31,		
	2018	2017	2016
Weighted average assumptions used in performance unit valuations:			
Expected volatility	34.30%	34.26%	35.67%
Expected dividend yield	0.37 %	1.97 %	3.86 %
Expected term (in years)	3	3	3
Risk-free interest rate	2.42 %	1.60 %	0.99 %

During the year ended December 31, 2016, approximately 329,599 performance units were granted with vesting based on the cumulative spread between our return on invested capital (ROIC) and our weighted-average cost of capital (WACC) measured over a three-year period. These units are accounted for as share-based payments but are settled in cash, and are therefore accounted for as a liability with changes in value recorded through earnings during the three year service period. Awards are forfeited upon termination of employment, but not for retirement (if the employee has at least five years of service at age 60 or older), death, or disability of the employee. The total grant-date fair value of these awards was equal to the market price of our stock at the date of grant, which was $28.49.

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A summary of our performance unit activity during 2018 is as follows:

	Shares (in millions)	Weighted Average Grant Date Fair Value Per Share
Outstanding as of December 31, 2017	1.1	$ 33.26
Granted	0.4	28.09
Issued and cancelled	(0.2)	$ 43.79
Outstanding as of December 31, 2018	1.3	$ 33.26

Performance Based Cost Reduction Incentive Awards

During the year ended December 31, 2014, approximately 627,054 units of one-time, long-term incentive awards were issued to executive officers and other management employees tied to achieving target controllable operating costs savings of $228 million from 2013 levels by the end of 2016 (“measurement period”). The total grant-date fair value of these awards was equal to the market price of our stock at the date of grant, which was $49.17. During 2017, the awards were settled through the issuance of 934,346 shares of Mosaic common stock which was 150% of target, based on operating cost savings achieved during the measurement period. The market price of our stock was $31.42 at the date of issuance.

Share-Based Compensation Expense

We recorded share-based compensation expense of $27.5 million, $28.0 million and $30.5 million for 2018, 2017 and 2016, respectively. The tax benefit related to share exercises and lapses in the year was $5.8 million, $9.7 million and $10.7 million for 2018, 2017 and 2016, respectively.

As of December 31, 2018, there was $16.8 million of total unrecognized compensation cost related to options, restricted stock units and performance units and shares granted under the 2014 Stock and Incentive Plan and the Omnibus Plan. The unrecognized compensation cost is expected to be recognized over a weighted-average period of one year. The total fair value of options vested in 2017 and 2016 was $4.2 million and $4.5 million, respectively. No options vested in 2018.

There was no cash received from exercises of share-based payment arrangements for 2018 or 2017. Cash received from exercises of share-based payments was $3.8 million in 2016. In 2018, 2017 and 2016, we received a tax benefit for tax deductions from options of $2.3 million, $14.0 million and $3.3 million, respectively.

21. COMMITMENTS

We lease certain plants, warehouses, terminals, office facilities, railcars and various types of equipment under operating leases, some of which include rent payment escalation clauses, with lease terms ranging from one to ten years. In addition to minimum lease payments, some of our office facility leases require payment of our proportionate share of real estate taxes and building operating expenses.

In 2013, we entered into an ammonia supply agreement with CF (the “CF Ammonia Supply Agreement”) that commenced in 2017, under which Mosaic agreed to purchase approximately 545,000 to 725,000 tonnes of ammonia per year during a term that may extend until December 31, 2032 at a price tied to the prevailing price of U.S. natural gas.

We have long-term agreements for the purchase of sulfur, which is used in the production of phosphoric acid, and natural gas, which is a significant raw material, used primarily in the solution mining process in our Potash segment and used in our phosphate concentrates plants. Also, we have agreements for capital expenditures primarily in our Potash segments related to our expansion projects.

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A schedule of future minimum long-term purchase commitments, based on expected market prices as of December 31, 2018, and minimum lease payments under non-cancelable operating leases as of December 31, 2018 is as follows:

(in millions)	Purchase Commitments	Operating Leases
2019	$ 2,586.5	$ 97.5
2020	588.9	76.8
2021	495.7	54.7
2022	375.5	36.6
2023	261.1	28.1
Subsequent years	1,437.9	30.9
	$ 5,745.6	$ 324.6

Rental expense for 2018, 2017 and 2016 was $270.3 million, $114.0 million and $111.0 million, respectively. Purchases made under long-term commitments in 2018, 2017 and 2016 were $2.0 billion, $1.9 billion and $1.6 billion, respectively.

Most of our export sales of potash crop nutrients are marketed through a North American export association, Canpotex, which may fund its operations in part through third-party financing facilities. As a member, Mosaic or our subsidiaries are contractually obligated to reimburse Canpotex for their pro rata share of any operating expenses or other liabilities incurred. The reimbursements are made through reductions to members’ cash receipts from Canpotex.

We incur liabilities for reclamation activities and Gypstack closures in our Florida and Louisiana operations where, in order to obtain necessary permits, we must either pass a test of financial strength or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. The surety bonds generally expire within one year or less but a substantial portion of these instruments provide financial assurance for continuing obligations and, therefore, in most cases, must be renewed on an annual basis. As of December 31, 2018, we had $497.7 million in surety bonds outstanding, of which $203.3 million is for reclamation obligations, primarily related to mining in Florida. In addition, included in this amount is $233.7 million, reflecting our updated closure cost estimates, delivered to EPA as a substitute for the financial assurance provided through the Plant City Trust. The remaining balance in surety bonds outstanding of $60.7 million is for other matters.

22. CONTINGENCIES

We have described below the material judicial and administrative proceedings to which we are subject.

Environmental Matters

We have contingent environmental liabilities that arise principally from three sources: (i) facilities currently or formerly owned by our subsidiaries or their predecessors; (ii) facilities adjacent to currently or formerly owned facilities; and (iii) third-party Superfund or state equivalent sites. At facilities currently or formerly owned by our subsidiaries or their predecessors, the historical use and handling of regulated chemical substances, crop and animal nutrients and additives and by-product or process tailings have resulted in soil, surface water and/or groundwater contamination. Spills or other releases of regulated substances, subsidence from mining operations and other incidents arising out of operations, including accidents, have occurred previously at these facilities, and potentially could occur in the future, possibly requiring us to undertake or fund cleanup or result in monetary damage awards, fines, penalties, other liabilities, injunctions or other court or administrative rulings. In some instances, pursuant to consent orders or agreements with governmental agencies, we are undertaking certain remedial actions or investigations to determine whether remedial action may be required to address contamination. At other locations, we have entered into consent orders or agreements with appropriate governmental agencies to perform required remedial activities that will address identified site conditions. Taking into consideration established accruals of approximately $58.6 million and $35.1 million, as of December 31, 2018 and 2017, respectively, expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material effect on our business or financial condition. However, material expenditures could be required in the future to remediate the contamination at known sites or at other current or former sites or as a result of other environmental, health and safety matters. Below is a discussion of the more significant environmental matters.

New Wales Water Loss Incident. In August 2016, a sinkhole developed under one of the two cells of the active Gypstack at our New Wales facility in Polk County, Florida, resulting in process water from the stack draining into the sinkhole. The

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incident was reported to the FDEP and EPA. In October 2016, our subsidiary, Mosaic Fertilizer, entered into a consent order (the "Order") with the FDEP relating to the incident. Under the order, Mosaic Fertilizer agreed to, among other things: implement a remediation plan to close the sinkhole; perform additional monitoring of the groundwater quality and act to assess and remediate in the event monitored off-site water does not comply with applicable standards as a result of the incident; evaluate the risk of potential future sinkhole formation at the New Wales facility and at Mosaic Fertilizer's active Gypstack operations at the Bartow, Riverview and Plant City facilities with recommendations to address any identified issues; and provide financial assurance of no less than $40.0 million, which we have done without the need for any expenditure of corporate funds through satisfaction of a financial strength test and Mosaic parent guarantee. The Order did not require payment of civil penalties relating to the incident.

In 2016, we recorded expenses and related accruals of approximately $70.0 million, reflecting our estimated costs related to the sinkhole. At June 30, 2017, we accrued an additional $14.0 million, in part due to refinements in our estimates as repairs progressed and because we determined that a portion of the sinkhole was wider than previously estimated. As of December 31, 2018, the sinkhole repairs were substantially complete, with $79.5 million spent in remediation and sinkhole-related costs through this date. We estimate remaining costs will be approximately $1.5 million. Additional expenditures could be required in the future for additional remediation or other measures in connection with the sinkhole including if, for example, FDEP or EPA were to request additional measures to address risks presented by the Gypstack. These expenditures could be material. In addition, we are unable to predict at this time what, if any, impact the New Wales water loss incident will have on future Florida permitting efforts.

EPA RCRA Initiative. We have certain financial assurance and other obligations under consent decrees and a separate financial assurance arrangement relating to our facilities in Florida and Louisiana. These obligations are discussed in Note 14 of our Notes to Consolidated Financial Statements.

EPA EPCRA Initiative. In July 2008, DOJ sent a letter to major U.S. phosphoric acid manufacturers, including us, stating that EPA's ongoing investigation indicates apparent violations of Section 313 of the Emergency Planning and Community Right-to-Know Act ("EPCRA") at their phosphoric acid manufacturing facilities. Section 313 of EPCRA requires annual reports to be submitted with respect to the use or presence of certain toxic chemicals. DOJ and EPA also stated that they believe that a number of these facilities have violated Section 304 of EPCRA and Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") by failing to provide required notifications relating to the release of hydrogen fluoride from the facilities. The letter did not identify any specific violations by us or assert a demand for penalties against us. We cannot predict at this time whether EPA and DOJ will initiate an enforcement action over this matter, what its scope would be, or what the range of outcomes of such a potential enforcement action might be.

Florida Sulfuric Acid Plants. On April 8, 2010, EPA Region 4 submitted an administrative subpoena to us under Section 114 of the Federal Clean Air Act (the "CAA") regarding compliance of our Florida sulfuric acid plants with the "New Source Review" requirements of the CAA. The request received by Mosaic appears to be part of a broader EPA national enforcement initiative focusing on sulfuric acid plants. On June 16, 2010, EPA issued a notice of violation to CF (the "CF NOV") with respect to "New Source Review" compliance at the Plant City Facility's sulfuric acid plants and the allegations in the CF NOV were not resolved before our 2014 acquisition of the Plant City Facility. CF has agreed to indemnify us with respect to any penalty EPA may assess as a result of the allegations in the CF NOV. We are negotiating the terms of a settlement with EPA that would resolve both the violations alleged in the CF NOV, and violations which EPA may contend, but have not asserted, exist at the sulfuric acid plants at our other facilities in Florida. Based on the current status of the negotiations, we expect that our commitments will include an agreement to reduce our sulfur dioxide emissions over the next five years to comply with a sulfur dioxide ambient air quality standard enacted by EPA in 2010. We do not expect that any related penalties assessed against us as part of a potential settlement would be material. In the event we are unable to finalize agreement on the terms of the settlement, we cannot predict at this time whether EPA and DOJ will initiate an enforcement action with respect to "New Source Review" compliance at our Florida sulfuric acid plants other than the Plant City Facility or what its scope would be, or what the range of outcomes might be with respect to such a potential enforcement action or with respect to the CF NOV.

Other Environmental Matters. Superfund and equivalent state statutes impose liability without regard to fault or to the legality of a party's conduct on certain categories of persons who are considered to have contributed to the release of "hazardous substances" into the environment. Under Superfund, or its various state analogues, one party may, under certain circumstances, be required to bear more than its proportionate share of cleanup costs at a site where it has liability if payments cannot be obtained from other responsible parties. Currently, certain of our subsidiaries are involved or concluding involvement at several Superfund or equivalent state sites. Our remedial liability from these sites, alone or in the aggregate,

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currently is not expected to have a material effect on our business or financial condition. As more information is obtained regarding these sites and the potentially responsible parties involved, this expectation could change.
We believe that, pursuant to several indemnification agreements, our subsidiaries are entitled to at least partial, and in many instances complete, indemnification for the costs that may be expended by us or our subsidiaries to remedy environmental issues at certain facilities. These agreements address issues that resulted from activities occurring prior to our acquisition of facilities or businesses from parties including, but not limited to, ARCO (BP); Beatrice Fund for Environmental Liabilities; Conoco; Conserv; Estech, Inc.; Kaiser Aluminum & Chemical Corporation; Kerr-McGee Inc.; PPG Industries, Inc.; The Williams Companies; CF; and certain other private parties. Our subsidiaries have already received and anticipate receiving amounts pursuant to the indemnification agreements for certain of their expenses incurred to date as well as future anticipated expenditures. We record potential indemnifications as an offset to the established accruals when they are realizable or realized.
Phosphate Mine Permitting in Florida
Denial of the permits sought at any of our mines, issuance of the permits with cost-prohibitive conditions, substantial delays in issuing the permits, legal actions that prevent us from relying on permits or revocation of permits may create challenges for us to mine the phosphate rock required to operate our Florida and Louisiana phosphate plants at desired levels or increase our costs in the future.
The South Pasture Extension. In November 2016, the Army Corps of Engineers (the “Corps”) issued a federal wetlands permit under the Clean Water Act for mining an extension of our South Pasture phosphate rock mine in central Florida. On December 20, 2016, the Center for Biological Diversity, ManaSota-88, People for Protecting Peace River and Suncoast Waterkeeper issued a 60-day notice of intent to sue the Corps and the U.S. Fish and Wildlife Service (the “Service”) under the federal Endangered Species Act regarding actions taken by the Corps and the Service in connection with the issuance of the permit. On March 15, 2017, the same group filed a complaint against the Corps, the Service and the U.S. Department of the Interior in the U.S. District Court for the Middle District of Florida, Tampa Division. The complaint alleges that various actions taken by the Corps and the Service in connection with the issuance of the permit, including in connection with the Service’s biological opinion and the Corps’ reliance on that biological opinion, violated substantive and procedural requirements of the federal Clean Water Act (“CWA”), the National Environmental Policy Act (“NEPA”) and the Endangered Species Act (the “ESA”), and were arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law, in violation of the Administrative Procedure Act (the “APA”). As to the Corps, plaintiffs allege in their complaint, among other things, that the Corps failed to conduct an adequate analysis under the CWA of alternatives, failed to fully consider the effects of the South Pasture extension mine, failed to take adequate steps to minimize potential adverse impacts and violated the ESA by relying on the Service’s biological opinion to determine that its permitting decision is not likely to adversely affect certain endangered or rare species. As to the Service, plaintiffs allege in their complaint, among other things, that the Service’s biological opinion fails to meet statutory requirements, that the Service failed to properly consider impacts and adequately assess the cumulative effects on certain species, and that the Service violated the ESA in finding that the South Pasture extension mine is not likely to adversely affect certain endangered or rare species. The plaintiffs are seeking relief including (i) declarations that the Corps’ decision to issue the permit violated the CWA, NEPA, the ESA and the APA and that its NEPA review violated the law; (ii) declarations that the Service’s biological opinion violated applicable law and that the Corps’ reliance on the biological opinion violated the ESA; (iii) orders that the Corps rescind the permit, that the Service withdraw its biological opinion and related analyses and prepare a biological opinion that complies with the ESA; and (iv) that the Corps be preliminarily and permanently enjoined from authorizing any further action under the permit until it complies fully with the requirements of the CWA, NEPA, the ESA and the APA. On March 31, 2017, Mosaic’s motion for intervention was granted with no restrictions. Plaintiffs filed an amended complaint on June 2, 2017, without any new substantive allegations, and on June 28, 2017, Mosaic (as intervenor) and separately, the defendants, filed answers to the amended complaint. On June 30, 2017, the plaintiffs filed a motion for summary judgment, arguing that the permit should not have been issued. On July 15, 2017, Mosaic filed a response in opposition to the plaintiffs’ motion, and on July 28, 2017, Mosaic filed its own motion for summary judgment. On December 14, 2017 the Tampa District Court granted Mosaic’s motion for summary judgment in favor of Mosaic and the government defendants, and denied the plaintiffs’ motion to supplement

the administrative record. On February 12, 2018, the plaintiffs filed an appeal with the U.S. Court of Appeals for the Eleventh Circuit of the Tampa District Court decision. A mandatory mediation occurred on March 19, 2018, but no settlement was reached. Briefing by all parties was completed on July 13, 2018.

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We believe the plaintiffs' claims in this case are without merit and we intend to vigorously defend the Corps' issuance of the South Pasture extension permit and the Service's biological opinion. However, if the plaintiffs were to prevail in this case, we would be prohibited from continuing to mine the South Pasture extension, and obtaining new or modified permits could significantly delay our resumption of mining and could result in more onerous mining conditions. This could have a material effect on our future results of operations, reduce future cash flows from operations, and in the longer term, conceivably adversely affect our liquidity and capital resources.

MicroEssentials® Patent Lawsuit

On January 9, 2009, John Sanders and Specialty Fertilizer Products, LLC filed a complaint against Mosaic, Mosaic Fertilizer, LLC, Cargill, Incorporated and Cargill Fertilizer, Inc. in the United States District Court for the Western District of Missouri (the "Missouri District Court"). The plaintiffs alleged that our production of MicroEssentials® value-added ammoniated phosphate crop nutrient products that we produce, infringed on a patent owned by the plaintiffs. Plaintiffs sought to enjoin the alleged infringement and to recover an unspecified amount of damages and attorneys' fees for past infringement. Through an order entered by the court on September 25, 2014, Cargill was dismissed as a defendant, and the two original plaintiffs were replaced by a single plaintiff, JLSMN LLC, an entity to whom the patent was transferred.

The Missouri District Court stayed the lawsuit pending reexamination of plaintiff's patent claims by the U.S. Patent and Trademark Office (the "PTO"). On September 12, 2012, Shell Oil Company ("Shell") filed an additional reexamination request which in part asserted that the claims as amended and added in connection with the reexamination are unpatentable. On October 4, 2012, the PTO issued a Reexamination Certificate in which certain claims of the plaintiff's patent were cancelled, disclaimed and amended, and new claims were added. On December 11, 2012, the PTO issued an initial rejection of all of plaintiff's remaining patent claims but later reversed its decision. Shell appealed the PTO's decision. On June 7, 2016, the Patent Trial and Appeal Board issued a decision holding that all patent claims initially allowed to the plaintiff should have been found invalid. On November 8, 2017, the Federal Circuit Court of Appeals affirmed the Patent Trial and Appeal Board's decision. On June 25, 2018, the United States Supreme Court denied plaintiffs petition for writ of certiorari. The case in the Missouri District Court has been dismissed with prejudice, and the matter is now concluded.

Brazil Legal Contingencies

Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings regarding labor, environmental and civil claims that allege aggregate damages and/or fines of approximately $1.08 billion. We estimate that our probable aggregate loss with respect to these claims is approximately $47.9 million, which is included in our accrued liabilities in our Condensed Consolidated Balance Sheets at December 31, 2018.

Approximately $743.7 million of the maximum potential loss relates to labor claims, such as in-house and third-party employees' judicial proceedings alleging the right to receive overtime pay, additional payment due to work in hazardous conditions, risk premium, profit sharing, additional payment due to night work, salary parity and wage differences. We estimate that our probable aggregate loss regarding these claims is approximately $40.7 million, which is included in accrued liabilities in our Condensed Consolidated Balance Sheets at December 31, 2018. Based on Brazil legislation and the current status of similar labor cases involving unrelated companies, we believe we have recorded adequate loss contingency reserves sufficient to cover our estimate of probable losses. If the status of similar cases involving unrelated companies were to adversely change in the future, our maximum exposure could increase and additional accruals could be required.

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Approximately $6.7 million of the above mentioned $40.7 million reserves related to a purported class action filed by one of the unions claiming additional payment for occupational hazard due to the alleged exposure of workers at the Company's potash mine at Rosario do Catete, Sergipe, to explosive gases that could be found during the mining process. The matter currently is before the Brazilian Labor Supreme Court.
The environmental and mining judicial and administrative proceedings claims allege aggregate damages and/or fines in excess of $163.3 million; however, we estimate that our probable aggregate loss regarding these claims in approximately $5.6 million, which has been accrued at December 31, 2018. The majority of the reserves involves a claim filed in 2012 by the State Public Prosecutor Office, alleging that the Company delayed construction of an effluent treatment plant, thereby subjecting it to a fine under the commitment agreement.
Our Brazilian subsidiaries also have certain other civil contingent liabilities with respect to judicial, administrative and arbitration proceedings and claims related to contract disputes, pension plan matters, real state disputes and other civil matters arising in the ordinary course of business. These claims allege aggregate damages in excess of $172.7 million. We estimate that the probable aggregate loss with respect to these matters is approximately $1.6 million.
Uberaba Judicial Settlement
In 2013, the Federal Public Prosecutor filed a public civil action requesting the Company adopt several measures to mitigate soil and water contamination related to the gypstack at our Uberaba facility, including compensation for the alleged social and environmental damages. In 2014, our predecessor subsidiary in Brazil entered into a judicial settlement with the federal public prosecutor, the State of Minas Gerais public prosecutor and the federal environmental agency. Under this agreement, we agreed to implement remediation measures such as: constructing a liner under the Gypstack water ponds and lagoons, and monitoring the groundwater and soil quality. We also agreed to create a private reserve of natural heritage and to pay compensation in the amount of approximately $0.3 million, which was paid in July 2018. We are currently acting in compliance with our obligations under the judicial settlement and expect them to be completed by December 31, 2023.
Uberaba EHS Class Action
In 2013, the State of Minas Gerais public prosecutor filed a class action claiming that our predecessor company in Brazil did not comply with labor safety rules and working hour laws. This claim was based on an inspection conducted by the Labor and Employment Ministry in 2010, following which we were fined for not complying with several labor regulations. We filed our defense, claiming that we complied with these labor regulations and that the assessment carried out by the inspectors in 2010 was abusive. Following the initial hearing, the court ordered an examination to determine whether there has been any non-compliance with labor regulations. The examination is currently pending. The amount involved in the proceeding is $31.8 million.
Brazil Tax Contingencies
Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings relating to various non-income tax matters. We estimate that our maximum potential liability with respect to these matters is approximately $414 million, of which $228 million is subject to an indemnification agreement entered into with Vale S.A. in connection with the Acquisition.
Approximately $256 million of the maximum potential liability relates to a Brazilian federal value added tax, PIS and Coffins, and tax credit cases, while the majority of the remaining amount relates to various other non-income tax cases such as value-added taxes. The maximum potential liability can increase with new audits. Based on Brazil legislation and the current status of similar tax cases involving unrelated taxpayers, we believe we have recorded adequate loss contingency reserves sufficient to cover our estimate of probable losses, which are immaterial. If the status of similar tax cases involving unrelated taxpayer changes in the future, additional accruals could be required.
Other Claims
We also have certain other contingent liabilities with respect to judicial, administrative and arbitration proceedings and claims of third parties, including tax matters, arising in the ordinary course of business. We do not believe that any of these contingent liabilities will have a material adverse impact on our business or financial condition, results of operations, and cash flows.

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23. RELATED PARTY TRANSACTIONS
We enter into transactions and agreements with certain of our non-consolidated companies and other related parties from time to time. As of December 31, 2018 and 2017, the net amount due from our non-consolidated companies totaled $95.2 million and $45.4 million, respectively. We also have a long-term indemnification asset of $30.7 million from Vale S.A. for reimbursement of pension plan obligations.
The Consolidated Statements of Earnings included the following transactions with our non-consolidated companies:

	Years Ended December 31,		
(in millions)	2018	2017	2016
Transactions with non-consolidated companies included in net sales	$842.4	$715.3	$623.1
Transactions with non-consolidated companies included in cost of goods sold	1,046.4	750.2	552.9

As part of the MWSPC joint venture, we market approximately 25% of the MWSPC production, for which approximately $6.6 million and $1.0 million, respectively is included in revenue for the years ended December 31, 2018 and 2017.
In November 2015, we agreed to provide funds to finance the purchase and construction of two articulated tug and barge units, intended to transport anhydrous ammonia for our operations, through a bridge loan agreement with Gulf Marine Solutions, LLC ("GMS"). GMS is a wholly owned subsidiary of Gulf Sulphur Services Ltd., LLLP ("Gulf Sulphur Services"), an entity in which we and a joint venture partner, Savage Companies ("Savage"), each indirectly own a 50% equity interest and for which a subsidiary of Savage provides operating and management services. GMS provided these funds through draws on the Mosaic bridge loan, and through additional loans from Gulf Sulphur Services. We determined, beginning in 2015 that we are the primary beneficiary of GMS, a variable interest entity and, at that time, we consolidated GMS's operations in our Phosphates segment.
On October 24, 2017, a lease financing transaction was completed with respect to the completed tug and barge unit, and; following the application of proceeds from the transaction, all outstanding loans made by Gulf Sulphur Services to GMS, together with accrued interest, were repaid, and the bridge loans related to the first unit's construction were repaid. At December 31, 2018 and December 31, 2017, $75.3 million and $73.2 million in bridge loans, respectively, which are eliminated in consolidation, were outstanding, relating to the cancelled second barge and the remaining tug. Reserves against the bridge loan of approximately $54.2 million were recorded through December 31, 2017, and no additional charges have been recorded in 2018. The construction of the remaining tug, funded by the bridge loan advances in excess of the reserves, is recorded within construction in-progress within our consolidated balance sheet. Several subsidiaries of Savage operate vessels utilized by Mosaic under time charter arrangements, including the ammonia tug and barge unit.
24. ACQUISITION OF MOSAIC FERTILIZANTES P&K S.A.
On December 19, 2016, we entered into an agreement with Vale S.A. ("Vale") and Vale Fertilizer Netherlands B.V. ("Vale Netherlands" and, together with Vale and certain of its affiliates, the "Sellers") to acquire all of the issued and outstanding capital stock of the now Acquired Business, for a purchase price of (i) $1.25 billion in cash (subject to adjustments) and (ii) 42,286,874 shares of our Common Stock. The agreement was amended by a letter agreement dated December 28, 2017 to, among other things, reduce the cash portion of the purchase price to $1.15 billion and the number of shares to be issued to 34,176,574.
On January 8, 2018, we completed the Acquisition. The aggregate consideration paid by Mosaic at closing was $1.08 billion in cash (after giving effect to certain adjustments based on matters such as the working capital of the Acquired Business, which were estimated at the time of closing) and 34,176,574 shares of our Common Stock, par value $0.01 per share ("Common Stock"), which was valued at $26.92 per share at closing. The final purchase price is subject to a fair value determination of potential contingent consideration of up to $260 million, of which $130 million has expired without payment as of December 31, 2018, and evaluation of other consideration associated with assumed liabilities.
This acquisition allows us to expand our business in the fast-growing Brazilian agricultural market. Following the Acquisition, we are the leading fertilizer production and distribution company in Brazil. The assets we acquired include five

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Brazilian phosphate rock mines, four chemical plants, a potash mine in Brazil, the Sellers' 40% economic interest in the joint venture which owns the Miski Mayo phosphate rock mine in the Bayovar region of Peru, in which we already held a 35% economic interest, and a potash project in Kronau, Saskatchewan.

On the closing date, we also entered into an investor agreement ("Investor Agreement") with Vale and Vale Fertilizer Netherlands B.V. that governs certain rights of and restrictions on Vale, Vale Fertilizer Netherlands B.V. and their respective affiliates (the "Vale Stockholders") in connection with the shares of our Common Stock they own as a result of the Acquisition. These include certain rights to designate two individuals to our board of directors. In connection with the closing of the Acquisition, our board of directors was increased by one director, with Vale designating a new director for appointment to the board. The Vale Stockholders are also subject to certain transfer and standstill restrictions. In addition, until the later of the third anniversary of the closing and the date on which our board of directors no longer includes any Vale designees, the Vale Stockholders will agree to vote their shares of our stock (i) with respect to the election of directors, in accordance with the recommendation of our board of directors and (ii) with respect to any other proposal or resolution, at their election, either in the same manner as and in the same proportion to all voting securities that are not beneficially held by the Vale Stockholders are voted, or in accordance with the recommendation of our board of directors. Also under the Investor Agreement, the Vale Stockholders will be entitled to certain demand and to customary piggyback registration rights, beginning on the second anniversary of the closing of the transaction.

The following table is the final allocation of the assets acquired and the liabilities we assumed in the Acquisition as of January 8, 2018, the date of the Acquisition:

Cash and cash equivalents	$86.0
Receivables, net	100.3
Inventories	344.2
Other current assets	107.6
Total current assets acquired	638.1
Property, plant and equipment, net	2,503.2
Goodwill	96.2
Deferred income taxes	48.3
Other assets[(a)]	292.2
Total assets acquired	3,578.0
Current maturities of long-term debt	6.7
Structured accounts payable arrangements	98.2
Accounts payable and accrued liabilities	373.3
Total current liabilities assumed	478.2
Long-term debt, less current maturities	64.6
Deferred income taxes	128.3
Asset retirement obligations	247.3
Other noncurrent liabilities	215.3
Total liabilities assumed	1,133.7
Net identifiable assets acquired	2,444.3
Noncontrolling interest	(453.0)
Cash and cash equivalents acquired	(86.0)
Total consideration transferred (net of cash acquired and working capital adjustments)	$1,905.3

(a) Other assets includes a long-term receivable of $116.3 million, recoverable taxes of $101.6 million and an indemnification asset of $37.2 million as of January 8, 2018.

Recognized goodwill of $96.2 million is attributable to the Miski Mayo portion of the Acquisition, reflected in the Phosphates segment.

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Mosaic gained control of the Miski Mayo mine through the acquisition of the Seller's 40% economic interest, for a total ownership interest of 75%, and began to consolidate the operations of Miski Mayo effective as of the closing date of the Acquisition. This was accounted for as a step acquisition and required us to remeasure the previously owned equity interest to fair value as of the acquisition date. An immaterial gain was recorded as a result of this re-measurement. Their balances are shown in the respective line items above.

As part of the Acquisition, a Brazilian company, Terras Brasil Ltda ("Brazil Landco"), was incorporated for the purpose of owning and transferring control of certain property from the Sellers to Mosaic. Brazil Landco is 51% owned by Vale or one of its subsidiaries and 49% owned by Mosaic. Mosaic is the primary beneficiary of Brazil Landco, a variable interest entity, and began to consolidate its operations effective as of the closing date of the Acquisition.

We recognized approximately $45.3 million and $26.2 million of acquisition and integration costs that were expensed during the years ended December 31, 2018 and 2017, respectively. These costs are included within other operating expense in the Consolidated Statement of Earnings. In 2018, we recorded other operating expense of $11.1 million related to a potential earn-out obligation to Vale, bringing the total obligation in our Consolidated Balance Sheets to $12.4 million at December 31, 2018. This earn-out obligation is subject to re-measurement each reporting period. Subsequent changes to the fair value of the liability will be reflected within other operating expense in the Consolidated Statement of Earnings. The cash payment, if any, would be paid in the first half of 2020.

The Acquisition contributed revenues and net earnings of $1.3 billion and $83.6 million, respectively from January 8, 2018 through December 31, 2018, excluding the effects of the acquisition and integration costs described above.

The following unaudited pro forma information presents the combined results of Mosaic and the acquired entities as if Mosaic had completed the Acquisition on January 1, 2017. The unaudited pro forma information for 2018 is immaterial as the Acquisition was completed on January 8, 2018. As required by GAAP, these unaudited pro forma results do not reflect any cost saving synergies from operating efficiencies. Accordingly, these unaudited pro forma results are presented for informational purposes only and are not necessarily indicative of what the actual results of operations of the combined companies would have been had the Acquisition occurred at the beginning of the period being presented, nor are they indicative of future results of operations.

	Year Ended December 31, 2017
Net sales	$8,605.7
Net earnings attributable to Mosaic	$(43.3)
Basic net earnings per share attributable to Mosaic	$(0.11)
Diluted net earnings per share attributable to Mosaic	$(0.11)

25. BUSINESS SEGMENTS

The reportable segments are determined by management based upon factors such as products and services, production processes, technologies, market dynamics, and for which segment financial information is available for our chief operating decision maker.

For a description of our business segments see Note 1 of our Notes to Consolidated Financial Statements. We evaluate performance based on the operating earnings of the respective business segments, which includes certain allocations of corporate selling, general and administrative expenses. The segment results may not represent the actual results that would be expected if they were independent, stand-alone businesses. Intersegment eliminations, including profit on intersegment sales, mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort® results of operations and the results of the China and India distribution business are included within Corporate, Eliminations and Other.

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Segment information for the years 2018, 2017 and 2016 is as follows:

(in millions)	Phosphates	Potash	Mosaic Fertilizantes	Corporate, Eliminations and Other (a)	Total
Year Ended December 31, 2018					
Net sales to external customers	$3,106.3	$2,154.8	$3,747.1	$579.1	$9,587.3
Intersegment net sales	780.0	19.1	—	(799.1)	—
Net sales	3,886.3	2,173.9	3,747.1	(220.0)	9,587.3
Gross margin	581.5	597.2	382.9	(63.2)	1,498.4
Canadian resource taxes	—	159.4	—	—	159.4
Gross margin (excluding Canadian resource taxes)	581.5	756.6	382.9	(63.2)	1,657.8
Operating earnings	414.8	454.1	227.0	(167.6)	928.3
Capital expenditures	393.9	410.5	148.2	1.9	954.5
Depreciation, depletion and amortization expense	403.7	301.5	158.5	20.2	883.9
Equity in net earnings (loss) of nonconsolidated companies	(4.6)	—	—	0.1	(4.5)
Year Ended December 31, 2017					—
Net sales to external customers	$2,826.6	$1,836.5	$2,220.1	$526.2	$7,409.4
Intersegment net sales	762.6	16.1	—	(778.7)	—
Net sales	3,589.2	1,852.6	2,220.1	(252.5)	7,409.4
Gross margin	332.2	391.6	128.6	(9.6)	842.8
Canadian resource taxes	—	70.1	—	—	70.1
Gross margin (excluding Canadian resource taxes)	332.2	461.7	128.6	(9.6)	912.9
Operating earnings	191.6	281.3	63.1	(70.3)	465.7
Capital expenditures	401.0	371.6	32.7	14.8	820.1
Depreciation, depletion and amortization expense	338.0	287.2	16.9	23.4	665.5
Equity in net earnings (loss) of nonconsolidated companies	16.0	—	—	0.7	16.7
Year Ended December 31, 2016					
Net sales to external customers	$2,928.4	$1,673.0	$2,113.9	$447.5	$7,162.8
Intersegment net sales	782.5	12.7	—	(795.2)	—
Net sales	3,710.9	1,685.7	2,113.9	(347.7)	7,162.8
Gross margin	349.8	256.6	125.0	78.6	810.0
Canadian resource taxes	—	101.1	—	—	101.1
Gross margin (excluding Canadian resource taxes)	349.8	357.7	125.0	78.6	911.1
Operating earnings	47.8	138.8	64.8	67.6	319.0
Capital expenditures	380.0	416.7	23.7	22.7	843.1
Depreciation, depletion and amortization expense	362.4	308.7	15.1	25.0	711.2
Equity in net earnings (loss) of nonconsolidated companies	0.2	(15.5)	(0.1)	—	(15.4)
Total assets as of December 31, 2018	$7,877.3	$7,763.1	$3,952.4	$526.4	$20,119.2
Total assets as of December 31, 2017	7,700.6	8,301.7	1,376.7	1,254.4	18,633.4
Total assets as of December 31, 2016	7,679.7	7,777.9	1,249.7	133.4	16,840.7

(a) The "Corporate, Eliminations and Other" category includes the results of our ancillary distribution operations in India and China. For the years ended December 31, 2018, 2017 and 2016, distribution operations in India and China had revenues of $533.9 million, $493.2 million, and $419.6 million, respectively and gross margins of $42.8 million, $46.9 million, and $21.2 million, respectively.

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Financial information relating to our operations by geographic area is as follows:

	Years Ended December 31,		
(in millions)	2018	2017	2016
Net sales[(a)]:			
Brazil	$3,727.7	$2,199.0	$2,127.0
Canpotex[(b)]	820.2	700.6	604.5
Canada	639.0	508.9	498.2
India	304.4	305.2	296.7
China	231.7	206.4	171.2
Australia	136.0	147.0	121.0
Mexico	133.9	131.8	125.0
Colombia	101.5	86.9	104.9
Paraguay	100.7	113.8	106.6
Japan	92.2	71.7	82.7
Peru	82.6	56.9	68.3
Argentina	70.5	53.1	67.1
Honduras	28.7	20.6	25.6
Thailand	28.1	20.9	21.2
Other	118.4	105.6	65.1
Total international countries	6,615.6	4,728.4	4,485.1
United States	2,971.7	2,681.0	2,677.7
Consolidated	$9,587.3	$7,409.4	$7,162.8

(a) Revenues are attributed to countries based on location of customer.

(b) Canpotex is the export association of the Saskatchewan potash producers. Canpotex sells approximately 24% of its sales volumes to Brazil, 18% to China, 10% to India, 10% to Indonesia and 38% to the rest of the world.

	December 31,	
(in millions)	2018	2017
Long-lived assets:		
Canada	$4,764.8	$5,457.1
Brazil	1,886.0	326.0
Other	123.2	103.7
Total international countries	6,774.0	5,886.8
United States	7,056.9	6,181.9
Consolidated	$13,830.9	$12,068.7

Excluded from the table above as of December 31, 2018 and 2017, are goodwill of $1,707.5 million and $1,693.6 million and deferred income taxes of $343.8 million and $254.6 million, respectively.

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Net sales by product type for the years 2018, 2017 and 2016 are as follows:

	Years Ended December 31,		
(in millions)	2018	2017	2016
Sales by product type:			
Phosphate Crop Nutrients	$2,956.8	$2,266.7	$2,369.2
Potash Crop Nutrients	2,755.9	2,180.6	1,889.1
Crop Nutrient Blends	1,418.9	1,384.2	1,403.1
Specialty Products[(a)]	1,844.8	1,319.8	1,266.5
Phosphate Rock	53.0	—	—
Other[(b)]	557.9	258.1	234.9
	$9,587.3	$7,409.4	$7,162.8

(a) Includes sales of MicroEssentials®, K-Mag, Aspire and animal feed ingredients.
(b) Includes sales of industrial potash.

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Quarterly Results (Unaudited)
In millions, except per share amounts and common stock prices

	Quarter				
	First	Second	Third	Fourth	Year
Year Ended December 31, 2018					
Net sales	$1,933.7	$2,205.0	$2,928.1	$2,520.5	$9,587.3
Gross margin	242.1	294.6	495.5	466.2	1,498.4
Operating earnings	80.7	196.3	393.3	258.0	928.3
Net earnings attributable to Mosaic	42.3	67.9	247.5	112.3	470.0
Basic net earnings per share attributable to Mosaic	$0.11	$0.18	$0.64	$0.29	$1.22
Diluted net earnings per share attributable to Mosaic	0.11	0.18	0.64	0.29	1.22
Common stock prices:					
High	$29.20	$29.95	$32.98	$37.37	
Low	23.43	22.90	27.50	27.52	
Year Ended December 31, 2017					
Net sales	$1,578.1	$1,754.6	$1,984.8	$2,091.9	$7,409.4
Gross margin	129.6	192.3	240.8	280.1	842.8
Operating earnings	30.1	94.6	213.9	127.1	465.7
Net earnings attributable to Mosaic	(0.9)	97.3	227.5	(431.1)	(107.2)
Basic net earnings per share attributable to Mosaic	$—	$0.28	$0.65	$(1.23)	$(0.31)
Diluted net earnings per share attributable to Mosaic	—	0.28	0.65	(1.23)	(0.31)
Common stock prices:					
High	$34.36	$29.51	$24.77	$26.12	
Low	28.34	21.79	19.23	20.72	

The number of holders of record of our Common Stock as of March 1, 2019 was 1,599.

Dividends have been declared on a quarterly basis during all periods presented. In the second quarter of 2015, we increased our annual dividend to $1.10 per share. In the second quarter of 2017, we decreased our annual dividend to $0.60 per share and in the fourth quarter of 2017, we decreased it to $0.10 per share.

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The following table presents our selected financial data. This information has been derived from our audited consolidated financial statements. This historical data should be read in conjunction with the Consolidated Financial Statements and the related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Five Year Comparison

In millions, except per share amounts

	Years Ended December 31,				
	2018	2017	2016	2015	2014
Statements of Operations Data:					
Net sales	$9,587.3	$7,409.4	$7,162.8	$8,895.3	$9,055.8
Cost of goods sold	8,088.9	6,566.6	6,352.8	7,177.4	7,129.2
Gross margin	1,498.4	842.8	810.0	1,717.9	1,926.6
Selling, general and administrative expenses	341.1	301.3	304.2	361.2	382.4
Gain on assets sold and to be sold	—	—	—	—	(16.4)
Carlsbad restructuring expense[(b)]	—	—	—	—	125.4
Other operating expenses	229.0	75.8	186.8	77.9	123.4
Operating earnings	928.3	465.7	319.0	1,278.8	1,311.8
Gain in value of share repurchase agreement	—	—	—	—	(60.2)
Interest (expense) income, net	(166.1)	(138.1)	(112.4)	(97.8)	(107.6)
Foreign currency transaction (loss) gain	(191.9)	49.9	40.1	(60.5)	79.1
Other expense	(18.8)	(3.5)	(4.3)	(17.2)	(5.8)
Earnings from consolidated companies before income taxes	551.5	374.0	242.4	1,103.3	1,217.3
Provision for (benefit from) income taxes[(a)(b)]	77.1	494.9	(74.2)	99.1	184.7
Earnings (loss) from consolidated companies	474.4	(120.9)	316.6	1,004.2	1,032.6
Equity in net (loss) earnings of nonconsolidated companies	(4.5)	16.7	(15.4)	(2.4)	(2.2)
Net earnings (loss) including noncontrolling interests	469.9	(104.2)	301.2	1,001.8	1,030.4
Less: Net (loss) earnings attributable to noncontrolling interests	(0.1)	3.0	3.4	1.4	1.8
Net earnings (loss) attributable to Mosaic	$470.0	$(107.2)	$297.8	$1,000.4	$1,028.6

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	Years Ended December 31,				
	2018	2017	2016	2015	2014
Earnings per common share attributable to Mosaic:					
Basic net earnings (loss) per share attributable to Mosaic	$1.22	$(0.31)	$0.85	$2.79	$2.69
Basic weighted average number of shares outstanding	384.8	350.9	350.4	358.5	374.1
Diluted net earnings (loss) per share attributable to Mosaic	$1.22	$(0.31)	$0.85	$2.78	$2.68
Diluted weighted average number of shares outstanding	386.4	350.9	351.7	360.3	375.6
Balance Sheet Data (at period end):					
Cash and cash equivalents	$847.7	$2,153.5	$673.1	$1,276.3	$2,374.6
Total assets	20,119.2	18,633.4	16,840.7	17,389.5	18,283.0
Total long-term debt (including current maturities)	4,517.5	5,221.6	3,818.1	3,811.2	3,819.0
Total liabilities	9,514.5	8,994.3	7,218.2	7,824.5	7,562.4
Total equity	10,604.7	9,639.1	9,622.5	9,565.0	10,720.6
Other Financial Data:					
Depreciation, depletion and amortization	$883.9	$665.5	$711.2	$739.8	$750.9
Net cash provided by operating activities	1,409.8	935.5	1,260.2	2,038.3	2,122.1
Capital expenditures	954.5	820.1	843.1	1,000.3	929.1
Dividends per share[(c)]	0.10	0.35	1.10	1.075	1.00

(a) The years ended December 31, 2018 and 2017 include a discrete income tax expense of approximately $1 million and $451 million, respectively. The years ended December 31, 2016 and 2015 include a discrete income tax benefit of approximately $54 million and $47 million, respectively. See further discussion in Note 13 to the Consolidated Financial Statements.

(b) In 2014, we decided to permanently discontinue production of MOP at our Carlsbad, New Mexico facility. The pre-tax charges were $125.4 million. The year ended December 31, 2014 also includes a discrete income tax benefit of approximately $152 million primarily related to the acquisition of ADM and the sale of our distribution business in Argentina.

(c) Dividends have been declared on a quarterly basis during all periods presented. In the second quarter of 2015, we increased our annual dividend to $1.10 per share. In the second quarter of 2017, we decreased our annual dividend to $0.60 per share and in the fourth quarter of 2017, we decreased it to $0.10 per share.

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SCHEDULE II. VALUATION AND QUALIFYING ACCOUNTS
For the years ended December 31, 2018, 2017 and 2016
In millions

Column A	Column B	Column C		Column D	Column E
		Additions			
Description	Balance Beginning of Period	Charges or (Reductions) to Costs and Expenses	Charges or (Reductions) to Other Accounts(b)	Deductions	Balance at End of Period[(a)]
Allowance for doubtful accounts, deducted from accounts receivable in the balance sheet:					
Year ended December 31, 2016	10.4	(1.4)	1.7	(0.4)	10.3
Year ended December 31, 2017	10.3	5.6	(0.2)	(0.2)	15.5
Year ended December 31, 2018	15.5	—	12.0 (c)	(4.1)	23.4
Income tax valuation allowance, related to deferred income taxes					
Year ended December 31, 2016	11.9	18.7	—	—	30.6
Year ended December 31, 2017	30.6	553.5	—	—	584.1
Year ended December 31, 2018	584.1	946.2	—	—	1,530.3

(a) Allowance for doubtful accounts balance includes $22.1 million, $13.2 million, $7.6 million of allowance on long-term receivables recorded in other long term assets for the years ended December 31, 2018, 2017 and 2016, respectively.

(b) The income tax valuation allowance adjustment was recorded to accumulated other comprehensive income and deferred taxes.

(c) Amount relates to allowance of $12.0 million acquired in the Acquisition.

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Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining effective internal control over financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company's internal control system is a process designed to provide reasonable assurance to our management, Board of Directors and stockholders regarding the reliability of financial reporting and the preparation and fair presentation of our consolidated financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles (U.S. GAAP), and includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP, and that receipts and expenditures are being made only in accordance with authorizations from our management and Board of Directors; and
- 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 assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. In assessing the effectiveness of our internal control over financial reporting as of December 31, 2018 management used the control criteria framework of the Committee of Sponsoring Organizations (COSO) of the Treadway Commission published in its report entitled Internal Control—Integrated Framework (2013). Based on their evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2018. KPMG LLP, the independent registered public accounting firm that audited the financial statements included in this annual report, has issued an auditors' report on the Company's internal control over financial reporting as of December 31, 2018.