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

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to

Commission file number 1-37729

LSC Communications, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**36-4829580**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
191 N. Wacker Drive, Suite 1400, Chicago, IL	**60606**
(Address of principal executive offices)	**(ZIP Code)**

Registrant's telephone number, including area code—(773) 272-9200
Securities registered pursuant to Section 12(b) of the Act:

Title of each Class	Name of each exchange on which registered
Common Stock (Par Value $0.01)	NYSE

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

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

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

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

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

The aggregate market value of the shares of common stock (based on the closing price of these shares on the New York Stock Exchange—Composite Transactions) on June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, held by nonaffiliates was $512,138,094.

As of February 15, 2019, 33,315,949 shares of common stock were outstanding.

Documents Incorporated By Reference

Portions of the registrant's proxy statement related to its annual meeting of stockholders are incorporated by reference into Part III of this Form 10-K.

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PART I

PAR T I

ITEM 1. BUSINESS

Company Overview

The principal business of LSC Communications, Inc., a Delaware corporation, and its direct or indirect wholly-owned subsidiaries (“LSC Communications,” “the Company,” “we,” “our” and “us”) is to offer a broad scope of traditional and digital print, print-related services and office products.

On Octob er 1, 2016 (the “separation date”), R. R. Donnelley & Sons Company (“RRD” or the “Parent”) completed the previously announced separation (the “separation”) into three separate independent publicly-traded companies: (i) its publishing and retail-centric print services and office products business (“LSC Communications”); (ii) its financial communications services business (“Donnelley Financial Solutions, Inc.” or “Donnelley Financial”) and (iii) a global, customized multichannel communications management company, which is the business of RRD after the separation. To effect the separation, RRD undertook a series of transactions to separate net assets and legal entities. RRD completed the distribution (the “distribution”) of 80.75% of the outstanding common stock of LSC Communications and Donnelley Financial to RRD stockholders on October 1, 2016. RRD retained a 19.25% ownership stake in both LSC Communications and Donnelley Financial. On October 1, 2016, RRD stockholders of record as of the close of business on September 23, 2016 (“the record date”) received one share of LSC Communications common stock and one share of Donnelley Financial common stock for every eight shares of RRD common stock held as of the record date. On March 28, 2017, RRD completed the sale of approximately 6.2 million shares of LSC Communications common stock, representing its entire 19.25% retained ownership.

Merger Agreement

On October 30, 2018, the Company entered into an Agreement and Plan of Merger (the “Merger Agreement”) with Quad/Graphics, Inc. (“Quad/Graphics”), and QLC Merger Sub, Inc., a direct, wholly-owned subsidiary of Quad/Graphics (“Merger Sub”). Pursuant to the Merger Agreement, subject to the terms and conditions therein, Merger Sub will merge with and into the Company (the “Merger”), with the Company continuing as the surviving corporation. Subject to the terms and conditions set forth in the Merger Agreement, at the effective time of the Merger (the “Effective Time”), each share of the Company’s common stock issued and outstanding immediately prior to the Effective Time, will be converted into the right to receive 0.625 shares of class A common stock of Quad/Graphics, without interest and subject to adjustment as provided in the Merger Agreement.

The Company and Quad/Graphics have made customary representations, warranties and covenants in the Merger Agreement. Subject to certain exceptions outlined in the Merger Agreement, the Company has agreed to covenants relating to the Company’s business during the period between the execution of the Merger Agreement and the consummation of the Merger, including restrictions on its ability to issue any shares of its capital stock, repurchase any shares of its capital stock and incurring additional indebtedness outside the ordinary course of business. The Merger Agreement allows the Company to continue paying a regular quarterly dividend up to $0.26 per share.

On October 30, 2018, concurrently with the execution of the Merger Agreement, the Company and the trustees (the “Trustees”) under the Amended and Restated Voting Trust Agreement, dated as of June 25, 2010, pursuant to which certain shares of capital stock of Quad/Graphics are held by the Quad/Graphics, Inc. Voting Trust (the “Voting Trust”), entered into a voting and support agreement (the “Voting Agreement”). Pursuant to the Voting Agreement, the Trustees will vote all of the shares of Quad/Graphics held by the Voting Trust, which they have, directly or indirectly, the right to vote or direct the voting thereof, in favor of the issuance of class A shares of Quad/Graphics common stock in the Merger, and against any alternative acquisition proposal involving Quad/Graphics or other action that would reasonably be expected to breach the obligations of Quad/Graphics under the Merger Agreement or the Trustees under the Voting Agreement, or otherwise reasonably be expected to delay or adversely affect the Merger or the other transactions contemplated by the Merger Agreement.

The Company and Quad/Graphics filed notification and report forms in connection with the transactions contemplated by the Merger Agreement with the U.S. Department of Justice (the “ DOJ ”) and the U.S. Federal Trade Commission pursuant to the Hart-Scott-Rodino Antitrust Improvement Act of 1976, as amended (the “ HSR Act ”) on November 13, 2018. On December 13, 2018, the Company and Quad/Graphics each received a request for additional information and documentary material (the “ Second Request ”) from the DOJ in connection with the DOJ’s review of the transactions contemplated by the Merger Agreement.

Issuance of the Second Request extends the waiting period under the HSR Act until 30 days after both the Company and Quad/Graphics have substantially complied with the Second Request or such later time as the parties may agree with the DOJ, unless the waiting period is terminated earlier by th e DOJ. The Company continues to expect the Merger to be consummated in mid-2019.

Consummation of the Merger remains subject to the adoption of the Merger Agreement by the Company stockholders, the approval by Quad/Graphics shareholders of the issuance of Quad/Graphics shares as contemplated by the Merger Agreement, the expiration of the waiting period under the HSR Act and other required regulatory approvals, and the satisfaction or waiver of the other closing conditions specified in the Merger Agreement.

Business Overview

The Company serves the needs of publishers, merchandisers, cataloguers and retailers with product and service offerings that include traditional and digital print, e-services, logistics, warehousing, fulfillment and supply chain management services. The Company utilizes a broad portfolio of technology capabilities coupled with consultative attention to clients' needs to increase speed to market, reduce costs, provide postal savings to customers, and improve efficiencies. The Company prints magazines, catalogs, retail inserts, books, and directories and its office products offerings include filing products, envelopes, note-taking products, binder products, and forms.

The Company's product and service offerings include:

<u>Magazines, catalogs and retail inserts:</u> We are one of the largest producers of magazines and catalogs in North America. These products are manufactured to customers' specifications using offset, digital or gravure printing processes in combination with either on-press finishing, saddle-stitch binding or patent binding.

- Our catalog customers include retailers and other direct-to-buyer sellers who design their own catalogs and use our production capabilities to print and distribute their catalogs to customers through the mail.
- Our magazine customers are publishers who design their own magazines and use our production capabilities to print and distribute their magazines through the mail directly to their subscribers and through wholesalers to retailers and other "newsstands" for purchase by non-subscribers.
- Until the Company sold its retail offset printing facilities on June 5, 2018, our retail insert customers included retailers who distribute their inserts in newspapers distributed to newspaper subscribers and via in-store distribution.
- We made a number of acquisitions during 2017 that expanded and enhanced our product and service offerings:
  - Through our acquisition of CREEL Printing, LLC ("CREEL"), we expanded our customer base to include financial services firms, direct marketers, consumers and other types of customers who utilize targeted, personalized digital and sheetfed printing.
  - Our acquisition of Publishers Press, LLC enabled us to enhance our printing capabilities, especially in the short-run magazine category.
  - Our acquisition of HudsonYards Studios, LLC ("HudsonYards") allowed us to enhance our digital and print premedia capabilities, by providing high-quality creative retouching, computer-generated imagery, mechanical creation, press-ready file preparation, and interactive production services to our customers.

In the U.S., we have a network of production facilities enabling the optimal combination of regional and national distribution. Additionally, we have production facilities in Mexico that efficiently produce goods for distribution in Latin America.

<u>Logistics:</u> We provide logistics solutions to the Company and other third parties in the United States.

- We acquired RRD's Print Logistics business ("Print Logistics") during 2018. During 2017, we acquired The Clark Group, Inc. ("Clark Group"), Fairrington Transportation Corp., F.T.C. Transport, Inc. and F.T.C. Services, Inc. ("Fairrington") that expanded and enhanced our logistics offerings.

<u>Books:</u> We are the largest producer of books in the U.S. Our book customers generally are publishers who seek to print hardcover and softcover books for the education, trade, religious and testing sectors. We believe we are well positioned to meet our book customers' specific needs, whether they be colors, page counts, trim size, binding styles or quantities. Consumer trade books are typically produced using either offset or digital printing processes, and are bound in a variety of formats. Educational books include softcover and traditional casebound textbooks utilized by primary and secondary school and college students, as well as workbooks, teachers' editions, and other formats.

Directories: We produce directories that are mainly phone directories that support local and small business advertising. Our customers for directory printing are generally marketing solution providers that publish on line as well as printed directories.

Print-related services: In addition to printed products, we provide a number of print-related services.

- Our supply chain management offering includes procurement, warehousing, distribution, and inventory management for book publishers.
- We provide e-book formatting and distribution services.
- Our print management and sourcing offering serves customers looking to outsource non-core functions and add scale to their marketing efforts.
- Our premedia offering includes high quality color retouching and other premedia services for both print and digitally delivered content to publishers and retailers.
- Our mail services offering includes list processing, and mail sortation services that, combined with our production scale, optimize postal costs for magazine and catalog customers.
- Our primary mail sortation facility is located in Bolingbrook, Illinois. Because of our scale of production, we are frequently able to provide cross-customer sortation that reduces postal costs for our customers compared to what an individual customer could obtain.

Office Products: We produce a wide range of branded and private label products, primarily within the five categories below, and use e-commerce distribution for certain sales:

- Filing products: Our filing products include a variety of presentation and storage materials for professionals and students. We sell our filing products under the Pendaflex™ and other brands, as well as under private label brands for third parties. We enhanced our filing offering during 2017 by our acquisition of NECI, LLC (“NECI”), a supplier of commodity and specialty filing supplies.
- Envelopes: We produce envelopes for businesses and consumers within North America. Our key brands used for envelopes are Quality Park™ (since its acquisition in November 2017) and Ampad™, and we also produce private label envelopes for third parties.
- Note-taking products: Our note-taking products include legal pads, journals, index cards, spiral notebooks, composition books and notebook filler paper. We sell our note-taking products under the TOPS™, Ampad, Oxford™, and other brands, as well as under private label brands for third parties.
- Binder products: Our binder products include a variety of binders and binder accessories for professionals and students. We sell our binder products under the Cardinal™, Oxford and other brands, as well as under private label brands for third parties.
- Forms: We produce business forms, tax forms, message and memo pads, financial forms, and recordkeeping materials for businesses within North America. Our key brand used for forms is Adams™, and we also produce private label forms for third parties.

Segment Descriptions

During the third quarter of 2018, the Company realigned the reportable segments and reporting units to reflect its evolution since its separation from RRD in 2016, as well as changes from recent acquisition and disposal activity. All prior year amounts have been reclassified to conform to the Company’s current reporting structure.

The Company’s segments and their product offerings are summarized below:

Magazines, Catalogs and Logistics

The Magazines, Catalogs and Logistics segment primarily produces magazines and catalogs, as well as provides logistics services to the Company and other third-parties. The segment also provides certain other print-related services, including mail-list management and sortation. The segment has operations primarily in the U.S. The Magazines, Catalogs and Logistics segment is divided into two reporting units: magazines and catalogs; and logistics.

Book

The Book segment produces books for publishers primarily in the U.S. The segment also provides supply-chain management services and warehousing and fulfillment services, as well as e-book formatting for book publishers.

Office Products

The Office Products segment manufactures and sells branded and private label products in five core categories: filing products, envelopes, note-taking products, binder products, and forms.

Other

The Other grouping consists of the following non-reportable segments: Europe, Directories, Mexico, and Print Management. Mexico produces magazines, catalogs, statements, forms, and labels.   Print Management provides outsourced print procurement and management services. The Company disposed of its European printing business in the third quarter of 2018.

Corporate

Corporate consists of unallocated selling, general and administrative activities and associated expenses including, in part, executive, legal, finance, communications, certain facility costs and Last-In, First-Out ("LIFO") inventory provisions. In addition, share-based compensation expense is included in Corporate and not allocated to the operating segments. Prior to the separation, many of these costs were based on allocations from RRD, however, the Company has incurred such costs directly after the separation.

Financial and other information related to these segments is included in Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* , and in Note 18, *Segment Information* , to the consolidated and combined financial statements.

Business Acquisitions and Dispositions

The following table lists the Company's acquisitions since the beginning of 2017:

Date	Company	Description	Purchase Price
July 2, 2018	Print Logistics	Integrated logistics services provider with distribution network	$52 million in cash
November 29, 2017	Clark Group	Third-party logistics provider of distribution, consolidation, transportation management and international freight forwarding services	$25 million in cash
November 9, 2017	Quality Park	Producer of envelopes, mailing supplies and assorted packaging items	$41 million in cash
September 7, 2017	Publishers Press, LLC	Printing provider with capabilities such as web-offset printing, prepress and distribution services for magazines and retail brands	$68 million in cash
August 21, 2017	NECI	Supplier of commodity and specialty filing supplies	$6 million in cash
August 17, 2017	CREEL	Offset and digital printing company	$79 million in cash
July 28, 2017	Fairrington	Full-service, printer-independent mailing logistics provider in the United States	$19 million in cash and ~1.0 million shares of LSC common stock (total value $39 million)
March 1, 2017	HudsonYards	Digital and print premedia production company that provides high-quality creative retouching, computer-generated imagery, mechanical creation, press-ready file preparation, and interactive production services	$3 million in cash

The Company sold its European printing busine ss on September 28, 2018 for $47 million in cash. The Company sold its retail offset printing facilities on June 5, 2018.

For further information on the above acquisitions and European disposition, see Note 3, *Business Combinations and Disposition* , to the consolidated and combined financial statements.

Competitive Environment

According to the September 2018 IBIS World industry report *"Printing in the U.S.,"* estimated total annual printing industry revenue is approximately $76 billion, of which approximately $12 billion relates to our core segments of the print market and an additional approximately $31 billion pertains to related segments of the print market in which we are able to offer certain products. Despite consolidation in recent years, including several acquisitions completed by LSC Communications, the industry remains highly fragmented and LSC Communications is one of the largest players in our segment of the print market. The print and related services industry, in general, continues to have excess capacity and LSC Communications remains diligent in proactively identifying plant consolidation opportunities to keep our capacity in line with demand. Across the Company's range of print products and services, competition is based primarily on the ability to deliver products for the lowest total cost, a factor driven not only by price, but also by materials and distribution costs. We expect that prices for print products and services will continue to be a focal point for customers in coming years.

Value-added services, such as LSC Communications' co-mail, logistics and supply chain management offerings, enable customers to lower their total costs. Technological changes, including the electronic distribution of documents and data, online distribution and hosting of media content, and advances in digital printing, print-on-demand and internet technologies, continue to impact the market for our products and services. The impact of digital technologies has been felt in many print products. Digital technologies have impacted printed magazines as some advertising spending has moved from print to electronic media. Catalogs have experienced volume reductions as our customers allocate more of their spending to online resources and also face stiff competition from online retailers resulting in retailer compression. Educational books within the college market continue to be impacted by electronic substitution and other trends. The K-12 educational sector continues to be focused on increasing digital distribution but there has been inconsistent adoption across school systems. E-book substitution has impacted overall consumer print trade book volume, although e-book adoption rates have stabilized and industry-wide print book volume has been growing in recent years. In addition, retail inserts have experienced volume reductions primarily as a result of store closures and reduced newspaper circulation. Electronic communication and transaction technology has also continued to drive electronic substitution in directory printing, in part driven by cost pressures at key customers.

The future impact of technology on our business is difficult to predict and could result in additional expenditures to restructure impacted operations or develop new technologies. In addition, we have made targeted acquisitions and investments in our existing business to offer customers innovative services and solutions. Such acquisitions and investments include the acquisitions of Print Logistics in 2018 and Clark Group, Quality Park, Publishers Press, LLC, NECI, CREEL, Fairrington, and HudsonYards in 2017, which expanded our logistics, printing, digital, office products, and premedia capabilities, and Continuum Management Company, LLC ("Continuum") in 2016, which expanded our print management capabilities. These acquisitions and investments further secure our position as a technology leader in the industry.

Technological advancement and innovation has affected the overall demand for most of the products in our Office Products segment. While these changes continue to impact demand, the overall market for our products remains large and we believe share growth is attainable. We compete against a range of both domestic and international competitors in each of our product categories within the segment. Due to the increasing percentage of private label products in the market, resellers have created a highly competitive environment where purchasing decisions are based largely on price, quality and the supplier's ability to service the customer. As consumer preferences shift towards private label, resellers have increased the pressure on suppliers to better differentiate their product offering, oftentimes through product exclusivity, product innovation and development of private label products. We have experienced robust growth within our e-commerce channel, where a significant majority of our sales are branded products.

We have implemented a number of strategic initiatives to reduce our overall cost structure and improve efficiency, including the restructuring, reorganization and integration of operations and streamlining of administrative and support activities. Future cost reduction initiatives could include the reorganization of operations and the consolidation of facilities. Implementing such initiatives might result in future restructuring or impairment charges, which may be substantial. We also review our operations and management structure on a regular basis to appropriately balance risks and opportunities to maximize efficiencies and to support our long-term strategic goals.

Seasonality

Advertising and consumer spending trends affect demand in several of the end-markets served by LSC Communications. Historically, demand for printing of magazines, catalogs, retail inserts, books and office products is higher in the second half of the year, driven by increased advertising pages within magazines, holiday volume in catalogs and retail inserts, and back-to-school demand in books and office products. These typical seasonal patterns can be impacted by overall trends in the U.S. and world economy.

Raw Materials

We negotiate with suppliers to maximize our purchasing efficiencies. The primary raw materials we use in our printed products are paper and ink. We negotiate with paper suppliers to maximize our purchasing efficiencies and use a wide variety of paper grades and formats. In addition, a substantial amount of paper used in our printed products is supplied directly by customers. Variations in the cost and supply of certain paper grades used in the manufacturing process may affect our consolidated financial results. Generally, customers directly absorb the impact of changing prices on customer-supplied paper. For paper that we purchase, we have historically passed most changes in price through to our customers. Contractual arrangements and industry practice should support our continued ability to pass on any future paper price increases, but there is no assurance that market conditions will continue to enable us to successfully do so. Higher paper prices and tight paper supplies may have an impact on customers' demand for printed products. We also resell waste paper and other print-related by-products and may be impacted by changes in prices for these by-products.

We use a wide variety of ink formulations and colors in our manufacturing processes. Variations in the cost and supply of certain ink formulations may affect our consolidated financial results. We have undertaken various strategic initiatives to try to mitigate any foreseeable supply disruptions with respect to our ink requirements, including entering into a long term supply arrangement with a single supplier for a substantial portion of our ink supply. Certain contractual protections exist in our relationship with such supplier, such as price and quality protections and an ability to seek alternative sources of ink if the supplier breaches or is unable to perform certain of its obligations, which are intended to mitigate the risk of ink-related supply disruptions.

The primary materials used in the Office Products segment are paper, steel and polypropylene substrates. We negotiate with leading paper, plastic and steel suppliers to maximize our purchasing efficiencies. All of these materials are available from a number of domestic and international suppliers and we are not dependent upon any single supplier for any of these materials. We believe that adequate supply is available for each of these materials for the foreseeable future, although higher paper prices may have an impact on demand for our products.

Changes in material prices, including paper and freight, may impact the Company's operating margins as there may be a lag between when the Company experiences the changes and when they are absorbed by our customers.

Except for our long-term suppl y arrangement regarding ink, we do not consider ourselves to be dependent upon any single vendor as a source of supply for our businesses, and we believe that sufficient alternative sources for the same, similar or alternative products are available.

Cha nges in the price of raw materials, crude oil and other energy costs impact our manufacturing costs. Crude oil and energy prices continue to be volatile. Should prices increase, we generally cannot pass on to customers the impact of higher energy prices on our manufacturing costs. We do enter into fixed price contracts for a portion of our natural gas purchases to mitigate the impact of changes in energy prices. We cannot predict sudden changes in energy prices and the impact that possible future changes in energy prices might have upon either future operating costs or customer demand and the related impact either will have on the Company's consolidated statements of operations, balance sheets and cash flows.

Customers

Our printed products service retailers, including catalogers and merchandisers, publishers of magazines, books and directories and online retailers. Our customer base includes seven of the top ten catalogers in the United States, eight of the top ten magazine publishers in the United States, and all of the top ten book publishers based in North America. Our printed products are distributed through the United States Postal Service ("USPS") or foreign postal services or to our customers by direct shipment, typically in bulk, to customer facilities and warehouses.

Our Office Products segment primarily services office superstores, office supply wholesalers, independent contract stationers, mass merchandisers and retailers and e-commerce resellers. The products that make up our Office Products segment are distributed to our customers by direct shipment, typically in bulk, to customer facilities and warehouses.

For each of the years ended December 31, 2018, 2017 and 2016, no customer accounted for 10% or more of the Company's consolidated and combined net sales.

Technology, Research and Development

The Company has a broad portfolio of technology capabilities that are utilized in the delivery of products and services to our customers. We believe that proprietary technology is required where it will provide a competitive advantage or where the desired technology is not readily available in the marketplace, and, as such, our proprietary technology portfolio contains an array of applications and technological capabilities that were developed to perform different functions, including storefront, digital asset management and distribution, manufacturing systems, warehousing, logistics and list management services and data analytics solutions. Our technology strategy is focused on the continued investment in key technologies that support services and solutions that allow for creation, management, production, distribution and analytics of publisher content in multi-channels to maximize their distribution and return for each title. We are also focusing our technology capabilities on developments that will allow us to pursue strategic relationships and expanded services, such as our full supply chain management offering within our book platform. Our continued activities in our Unified Technology Platform aligns investments across several offerings to support publishers including; order to cash for publishing, digital analytics offered through Harvest View, anti-piracy for publishers through our InterceptTag℠ solution and integrated warehouse offerings in our book fulfillment platform complementing our offset and digital print capabilities. To implement our research and development strategy, we expect to primarily invest in the maintenance and enhancement of our technology footprint within our facilities and in development activities that allow us to create new and differentiating technology capabilities.

Cybersecurity

Our cybersecurity program is designed to meet the needs and expectations of our customers who entrust us with certain sensitive business information. Our infrastructure and technology, expansive and highly trained workforce and comprehensive security and compliance program make us qualified to safely process, store and protect this customer information.

Our infrastructure and technology security capabilities are bolstered by our relationship with a leading data center services provider. Furthermore, our networks are monitored by intrusion detection services around the clock, and our systems and applications are routinely tested for vulnerabilities and are operated under a strict patch management program.

We employ a highly skilled IT workforce to implement our cybersecurity programs and to handle specific security responsibilities. As a result of annual mandatory security awareness training, our IT workforce is qualified to address security and compliance-related issues as they arise. Additionally, all of our IT employees are carefully screened, undergo a thorough background check and are bound by a nondisclosure agreement that details such employee's security and legal responsibilities with regards to information handling. We believe our security and compliance team also diminishes the risk of system compromise and data exposure by rapidly and effectively addressing security incidents as they arise.

Intellectual Property

We consider patents, trademarks and other proprietary rights to be important to our business. We own over 150 patents worldwide, the majority of which are concentrated in our Office Products segment (utility and design patents), with the remainder falling into the following categories:

- Printing and binding patents: relate to manufacturing processes and systems used in the production of books, magazines and catalogs.
- Co-mailing patents: relate to combining printed publications in an efficient manner to achieve postal savings.
- New media patents: relate to methods for creating and formatting digital content for electronic publications.

We also own over 350 trademarks worldwide, the majority of which are concentrated within our Office Products segment. Several of our most significant trademarks include registrations for the Adams, Ampad, Cardinal Brands, Oxford, Pendaflex, Quality Park, and TOPS office products brands. Additionally, we own the rights to a group of trademarks relating to our e-media publishing services, such as Newsstand™, LibreDigital™, LibreMarket™, LibrePublish™, and LibreAccess™.

While we consider our patents, trademarks and other proprietary rights to be valuable assets, we do not believe that our profitability and operations are dependent upon any single patent, trademark or other proprietary right.

Environmental Compliance

Our operations are subject to various international, federal, state and local laws and regulations relating to the protection of the environment, including those governing discharges to air and water, the management and disposal of hazardous materials, the cleanup of contaminated sites and health and safety matters. In the United States, these laws and regulations include the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act and Superfund (the environmental program established in the Comprehensive Environmental Response, Compensation, and Liability Act to address abandoned hazardous waste sites), which imposes joint and severable liability on each potentially responsible party. We are committed to complying with these and all other applicable environmental, health, and safety laws, and in order to reduce the risk of non-compliance, we maintain an Environmental, Health and Safety management system that includes an appropriate policy and standards, staff dedicated to environmental, health, and safety issues, and other measures.

While it is our policy to conduct our global operations in accordance with all applicable laws, regulations and other requirements, from time to time, our properties, products or operations may be affected by environmental issues. It is not possible to quantify with certainty the potential impact of actions regarding environmental matters, particularly remediation and other compliance efforts that we may undertake in the future. However, in the opinion of management, compliance with the present environmental protection laws, before taking into account estimated recoveries from third parties, will not have a material adverse effect on our consolidated financial statements.

Employees

As of December 31, 2018, the Company had approximately 22,000 total employees in the global workforce, of which approximately 18,700 employees were in the U.S. and approximately 3,300 were in international locations. Of the U.S. and international employees, approximately 3% and 70% were covered by collective bargaining agreements, respectively. We have collective bargaining agreements with unionized employees in Canada and Mexico. We have not experienced a work stoppage during the past five years. Management believes that we have good relationships with our employees and collective bargaining groups.

Available Information

The Company maintains an Internet website at www.lsccom.com where the Company’s annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on form 8-K and all amendments to those reports are available without charge, as soon as reasonably practicable following the time they are filed with, or furnished to, the Securities and Exchange Commission (“SEC”). The Principles of Corporate Governance of the Company’s Board of Directors, the charters of the Audit, Human Resources and Corporate Responsibility and Governance Committees of the Board of Directors and the Company’s Principles of Ethical Business Conduct are also available on the Investor Relations portion of www.lsccom.com, and will be provided, free of charge, to any stockholder who requests a copy. References to the Company’s website address do not constitute incorporation by reference of the information contained on the website, and the information contained on the website is not part of this document.

Special Note Regarding Forward-Looking Statements

The Company has made forward-looking statements in this annual report on Form 10-K that are subject to risks and uncertainties. These statements are based on the beliefs and assumptions of the Company. Generally, forward-looking statements include information concerning possible or assumed future actions, events, or results of operations of the Company.

These statements may include, or be preceded or followed by, the words “anticipates,” “estimates,” “expects,” “projects,” “forecasts,” “intends,” “plans,” “continues,” “believes,” “may,” “will,” “goals” or variations of such words and similar expressions. Examples of forward-looking statements include, but are not limited to, statements, beliefs and expectations regarding our business strategies, market potential, future financial performance, dividends, costs to be incurred in connection with the separation, results of pending legal matters, our goodwill and other intangible assets, price volatility and cost environment, our liquidity, our funding sources, expected pension contributions, capital expenditures and funding, our financial covenants, repayments of debt, off-balance sheet arrangements and contractual obligations, our accounting policies, general views about future operating results and other events or developments that we expect or anticipate will occur in the future. These forward-looking statements are subject to a number of important factors, including those factors disclosed in Item 1A, *Risk Factors* , that could cause our actual results to differ materially from those indicated in any such forward-looking statements. These factors include, but are not limited to:

- the competitive market for our products and industry fragmentation affecting our prices;
- inability to improve operating efficiency to meet changing market conditions;
- changes in technology, including electronic substitution and migration of paper based documents to digital data formats;
- the volatility and disruption of the capital and credit markets, and adverse changes in the global economy;
- the effects of global market and economic conditions on our customers;
- the effect of economic weakness and constrained advertising;
- uncertainty about future economic conditions;
- increased competition as a result of consolidation among our competitors;
- our ability to successfully integrate recent and future acquisitions;
- factors that affect customer demand, including changes in postal rates, postal regulations, delivery systems and service levels, changes in advertising markets and customers' budgetary constraints;
- our ability to access debt and the capital markets due to adverse credit market conditions;
- the effects of seasonality on our core businesses;
- the effects of increases in capital expenditures;
- changes in the availability or costs of key print and office products production materials (such as paper, ink, energy, and other raw materials), the tight labor market, the availability of labor at our vendors or in prices received for the sale of by-products;
- performance issues with key suppliers;
- our ability to maintain our brands and reputation;
- the retention of existing, and continued attraction of additional customers and key employees, including management;
- the effect of economic and political conditions on a regional, national or international basis;
- the effects of operating in international markets, including fluctuations in currency exchange rates;
- changes in environmental laws and regulations affecting our business;
- the ability to gain customer acceptance of our new products and technologies;
- the effect of a material breach of or disruption to the security of any of our or our vendors' systems;
- the failure to properly use and protect customer and employee information and data;
- the effect of increased costs of providing health care and other benefits to our employees;
- the effect of catastrophic events;
- the impact of the U.S. Tax Cuts and Jobs Act ("Tax Act");
- increases in requirements to fund or pay withdrawal costs or required contributions related to the Company's pension plans;

- we may be unable to consummate the merger;
- the merger agreement limits LSC's ability to pursue alternatives to the merger that might result in greater value to LSC stockholders than the merger;
- failure to consummate the merger could negatively impact the stock price and the future business and financial results of LSC;
- LSC may incur significant transaction and merger-related costs in connection with the merger, which may be in excess of those anticipated; and
- LSC may be a target of further securities class action and derivative lawsuits which could result in substantial costs and may delay or prevent the merger from being consummated.

Because forward-looking statements are subject to assumptions and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Undue reliance should not be placed on such statements, which speak only as of the date of this document or the date of any document that may be incorporated by reference into this document.

Consequently, readers of this annual report on Form 10-K should consider these forward-looking statements only as the Company's current plans, estimates and beliefs. The Company does not undertake and specifically declines any obligation to publicly release the results of any revisions to these forward-looking statements that may be made to reflect future events or circumstances after the date of such statements or to reflect the occurrence of anticipated or unanticipated events. The Company undertakes no obligation to update or revise any forward-looking statements in this annual report on Form 10-K to reflect any new events or any change in conditions or circumstances.

ITEM 1A. RISK FACTORS

The Company's consolidated statements of operations, balance sheets and cash flows can be adversely affected by various risks. These risks include the principal factors listed below and the other matters set forth in this annual report on Form 10-K. You should carefully consider all of these risks.

Risks Relating to the Business of the Company

The highly competitive market for our products and industry fragmentation may continue to create adverse price pressures.

The markets for the majority of our product categories are highly fragmented and we have a large number of competitors. Management believes that excess capacity in our markets, as well as increasing consolidation of our customer base has caused downward price pressure for our products and that this trend is likely to continue. In addition, consolidation in the markets in which we compete may increase competitive price pressures due to competitors lowering prices as a result of synergies achieved.

We may be unable to improve our operating efficiency rapidly enough to meet market conditions.

Because the markets in which we compete are highly competitive, we must continue to improve our operating efficiency in order to maintain or improve our profitability. There is no assurance that we will be able to do so in the future. In addition, the need to reduce ongoing operating costs may result in significant up-front costs to reduce workforce, close or consolidate facilities, or upgrade equipment and technology, which could negatively impact the Company's consolidated statements of operations, balance sheets and cash flows.

The substitution of electronic delivery for printed materials may continue to adversely affect our businesses.

Electronic delivery of documents and data, including the online distribution and hosting of media content, offer alternatives to traditional delivery of print materials. Consumers continue to accept electronic substitution in directory printing and are replacing traditional reading of print materials with online, hosted media content or e-reading devices. The extent to which consumers will continue to accept electronic delivery is uncertain and it is difficult to predict future rates of acceptance of these alternatives. Electronic delivery has negatively impacted some of our products, such as directories and books. Digital technologies have also impacted printed magazines, as some advertising spending has started transitioning from print to electronic media. To the extent that consumers and customers continue to accept these alternatives, our consolidated statements of operations, balance sheets and cash flows could be negatively impacted.

Global market and economic conditions, as well as the effects of these conditions on our customers' businesses, could adversely affect us, as the financial condition of our customers may deteriorate.

Global economic conditions affect our customers' businesses and the markets they serve. Because a significant part of our business relies on advertising spending, which is driven in part by economic conditions and consumer spending, a prolonged downturn in the global economy and an uncertain economic outlook could further reduce the demand for the printing and related services that we provide. Delays or reductions in customers' spending would have an adverse effect on demand for our products and services, which could be material, and consequently could negatively impact our results of consolidated statements of operations, balance sheets and cash flows . Economic weakness and constrained advertising spending may result in decreased net sales, operating margin, earnings and growth rates and difficulty in managing inventory levels and collecting accounts receivable. Our exposure to industries experiencing financial difficulties and certain financially troubled customers could negatively impact our consolidated statements of operations, balance sheets and cash flows . Further, a lack of liquidity in the capital markets or a sustained period of unfavorable economic conditions could increase our exposure to credit risks of our customers and result in increases in bad debt write-offs and allowances for doubtful accounts receivable. We may experience operating margin declines, reflecting the effect of items such as competitive price pressures, inventory write-downs, cost increases for wages and materials, and increases in pension plan funding requirements. Economic downturns may also result in restructuring actions and associated expenses and impairment of long-lived assets, including goodwill and other intangibles. Uncertainty about future economic conditions makes it difficult for us to forecast operating results and to make decisions about future investments.

Adverse credit market conditions may limit the Company's ability to obtain future financing.

We may, from time to time, depend on access to the credit markets. Uncertainty and volatility in global financial markets may cause financial markets institutions to fail or may cause lenders to hoard capital and reduce lending. The failure of a financial institution that supports the Company's existing credit agreement would reduce the size of its committed facility unless a replacement institution were added.

Our business is subject to risks associated with seasonality, which could negatively impact our consolidated statements of operations, balance sheets and cash flows.

Our sales and cash flows are affected by seasonality, as print demand is affected by advertising and consumer spending trends. Historically, demand for printing of magazines, catalogs, retail inserts, books and office products is higher in the second half of the year, driven by increased advertising pages within magazines, holiday volume in catalogs and retail inserts, and back-to-school demand in books and office products. These typical seasonal patterns can be impacted by overall trends in the U.S. and world economy. For these reasons, sequential quarterly comparisons are not a good indication of our performance or how we may perform in the future. If we are unable to obtain access to financing sources to fund our working capital needs or if seasonal fluctuations are greater than anticipated, this could negatively impact our consolidated statements of operations, balance sheets and cash flows .

Increases in the prices of paper, ink, energy and other raw materials may adversely impact us.

Purchases of paper, ink, energy and other raw materials represent a large portion of our costs. Increases in the prices of these inputs may increase our costs, and we may not be able to pass these increased costs on to customers through higher prices, or to the extent we pass along such costs by increasing our prices to our customers, it may adversely impact customers' demand for our printing and related services.

Decreases in the market prices for waste paper or other byproducts may adversely impact us.

Decreases in the prices paid by third parties for waste paper and other print-related byproducts may make it infeasible for us to sell, or adversely impact the amounts we are paid, from sales of such byproducts.

We may be adversely affected by a decline in the availability of raw materials.

We are dependent on the availability of paper, ink and other raw materials to support our operations. Unforeseen developments in these markets could result in a decrease in the supply of paper, ink or other raw materials and could cause us to be unable to meet contractual commitments to our customers or result in a decline in our net sales.

We rely on a key supplier for ink and if such supplier breaches or is unable to perform certain obligations under our arrangement with them, we may be unable to procure comparable supply from another supplier in a timely fashion, or when we are able to procure such supply, such supply may be on worse terms.

A significant portion of our ink comes from a single supplier pursuant to a multi-year supply agreement. The ink industry has faced significant challenges in recent years, as the demand for ink has declined while the costs of raw materials used to manufacture ink have fluctuated. We rely on this ink supplier to meet a significant portion of our ink needs, and have negotiated a contract that provides us with favorable terms and certain contingencies from supply disruption. A disruption in the supply of ink from this supplier, either from natural disaster, financial bankruptcy or other supply interruption, may require us to purchase a significant amount of ink from other suppliers or assume the production ourselves, which in either case, may be on worse terms and slow our production, either of which could have a negative impact on our consolidated statements of operations, balance sheets and cash flows .

We have in the past acquired and intend in the future to acquire other businesses and we may be unable to successfully integrate the operations of these businesses and may not achieve the cost savings and increased net sales anticipated as a result of these acquisitions.

Achieving the anticipated benefits of acquisitions will depend in part upon our ability to integrate these businesses in an efficient and effective manner. The integration of companies that have previously operated independently may result in significant challenges, and we may be unable to accomplish the integration smoothly or successfully. In particular, the coordination of geographically dispersed organizations with differences in corporate cultures and management philosophies may increase the difficulties of integration. The integration of acquired businesses may also require the dedication of significant management resources, which may temporarily distract management's attention from the day-to-day operations of the Company. In addition, the process of integrating operations may cause an interruption of, or loss of momentum in, the activities of one or more of the Company's businesses and the loss of key personnel from the Company or the acquired businesses. Further, employee uncertainty and lack of focus during the integration process may disrupt the businesses of the Company or the acquired businesses.

The Company's strategy is, in part, predicated on the Company's ability to realize cost savings and to increase net sales through the acquisition of businesses that add to the breadth and depth of the Company's products and services. Achieving these cost savings and net sales increases is dependent upon a number of factors, many of which are beyond the Company's control. In particular, the Company may not be able to realize the benefits of more comprehensive product and service offerings, anticipated integration of sales forces, asset rationalization and systems integration.

We may be subject to more intensive competition if our competitors pursue consolidations.

We currently have a large number of competitors in the markets in which we operate. We believe that selectively pursuing acquisitions is an important strategy for our business, as evidenced by our pending merger with Quad/Graphics. If our competitors are able to successfully combine with one another, and we are not successful with our own efforts to consolidate or adapt effectively to increased competition, the competitive landscape we face could be significantly altered. Such consolidation could create stronger competitors with greater financial resources and broader manufacturing and distribution capabilities than our own, and the resulting increase in competitive pressures could negatively impact our consolidated statements of operations, balance sheets and cash flows .

Our business is dependent upon brand recognition and reputation, and the failure to maintain or enhance our brands or reputation would likely have an adverse effect on our business.

Our brand recognition, particularly in our Office Products segment, and reputation generally are important aspects of our business. Maintaining and further enhancing our brands and reputation will be important to retaining and attracting customers for our products. We also believe that the importance of our brand recognition and reputation for products will continue to increase as competition in the market for our products continues to increase. Our success in this area will be dependent on a wide range of factors, some of which are out of our control, including our ability to retain existing and obtain new customers and strategic partners, the quality and perceived value of our products, actions of our competitors, and positive or negative publicity. Our reputation also depends on the quality of our customer service, and if our customer service declines, our reputation may also decline. Damage to our reputation and loss of brand equity may reduce demand for our products and could negatively impact our consolidated statements of operations, balance sheets and cash flows .

We may be unable to hire and retain talented employees, including management.

Our success depends, in part, on our general ability to attract, develop, motivate and retain skilled employees. The loss of a significant number of our employees or the inability to attract, hire, develop, train and retain skilled personnel could have a serious negative effect on our business. Various locations may encounter competition with other manufacturers for skilled labor. Many of these manufacturers may be able to offer significantly greater compensation and benefits or more attractive lifestyle choices than we offer. In addition, many members of our management have significant industry experience that is valuable to our competitors. Our executive officers have non-solicitation agreements contractually prohibiting them from soliciting our customers and employees for a specified period of time after they leave the Company. If one or more members of our senior management team leave and cannot be replaced with a suitable candidate quickly, we could experience difficulty in managing our business properly, which could negatively impact our consolidated statements of operations, balance sheets and cash flows .

Catastrophic events may damage or destroy our factories, distribution centers or other facilities, which may disrupt our business.

Natural disasters, conflicts, wars, terrorist attacks, fires or other catastrophic events could cause damage or disruption to our factories, distribution centers or other facilities, which may adversely affect our ability to manage logistics, cause delays in the delivery of products and services to our customers, and create inefficiencies in our supply chain. An event of this nature could also prevent us from maintaining ongoing operations and from performing critical business functions. While we maintain backup systems and operate out of multiple facilities to reduce the potentially adverse effect of these types of events, a catastrophic event that results in the destruction of any of our major factories, distribution centers or other facilities could affect our ability to conduct normal business operations, which could negatively impact our consolidated statements of operations, balance sheets and cash flows .

There are risks associated with operations outside the United States.

Net sales from our operations in geographic regions outside the United States accounted for approximately 9% of our consolidated net sales for the year ended December 31, 2018. As a result, we are subject to the risks inherent in conducting business outside the United States, including the impact of economic and political instability of those countries in which we operate. Our operations outside of the United States during the year ended December 31, 2018 were primarily in Poland and Mexico. As mentioned in Item 1, *Business* , the Company completed the sale of its European printing business on September 28, 2018. Security disruptions within the regions in Mexico in which we operate may interfere with operations, which could negatively impact our supply chain.

We are also subject to risks that could materially affect our operations and operating results with respect to potential changes in United States government trade policy and legislation, including changes to tax laws, withdrawal from or modification of certain international trade agreements, including the North American Free Trade Agreement (“NAFTA”), the imposition of additional tariffs or other restrictions on trade on goods produced outside the United States for import into the United States and any changes in diplomatic relations with countries in which we operate or do business and compliance with applicable anti-corruption and sanctions laws and regulations.

We are exposed to risks related to potential adverse changes in currency exchange rates.

We are exposed to market risks resulting from changes in the currency exchange rates of the currencies in the countries in which we do business. Although operating in local currencies may limit the impact of currency rate fluctuations on the operating results of our non-U.S. subsidiaries, fluctuations in such rates may affect the translation of these results into our consolidated financial statements. To the extent borrowings, sales, purchases, net sales and expenses or other transactions are not in the applicable local currency, we may enter into foreign currency spot and forward contracts to hedge the currency risk. Management cannot be sure, however, that our efforts at hedging will be successful, and such efforts could, in certain circumstances, lead to losses.

The trend of increasing costs to provide health care and other benefits to our employees may continue.

We provide health care and other benefits to our employees. For many years, costs for health care have increased more rapidly than general inflation in the U.S. economy. If this trend in health care costs continues, our cost to provide such benefits could increase, adversely impacting our profitability. Changes to health care regulations in the U.S. may also increase our cost of providing such benefits. The full effect that a full or partial repeal of the Affordable Care Act or changes to other healthcare laws and regulations would have on our business remains unclear at this time, and could negatively impact our consolidated statements of operations, balance sheets and cash flows.

Changes in market conditions, changes in discount rates, or lower returns on assets may increase required pension plan contributions in future periods.

The funded status of our pension plans is dependent upon many factors, including returns on invested assets and the level of certain interest rates. As experienced in prior years, declines in the market value of the securities held by the plans coupled with historically low interest rates have substantially reduced, and in the future could further reduce, the funded status of the plans. These reductions may increase the level of expected required pension plan contributions in future years. Various conditions may lead to changes in the discount rates used to value the year-end benefit obligations of the plans, which could partially mitigate, or worsen, the effects of lower asset returns. If adverse conditions were to continue for an extended period of time, our costs and required cash contributions associated with pension plans may substantially increase in future periods.

A decline in our expected profitability or the expected profitability of our individual reporting units could result in the impairment of assets, including goodwill, other long-lived assets and deferred tax assets.

We hold goodwill, other long-lived assets and deferred tax assets on our balance sheet. A decline in expected profitability, particularly if there is a decline in the global economy, could call into question the recoverability of our related goodwill, other long-lived tangible and intangible assets or deferred tax assets and require the write-down or write-off of these assets or, in the case of deferred tax assets, recognition of a valuation allowance through a charge to income. Such an occurrence has had and could continue to have a negative impact on our consolidated statements of operations, balance sheets and cash flows .

Changes in postal rates, regulations and delivery systems may adversely impact demand for our products and services.

Postal costs are a significant component of many of our customer’s cost structure. Postal rate changes and USPS regulations that result in higher overall costs can influence the volume that these clients will be willing to print and ultimately send through the USPS.

Current federal law limits postal rate increases (outside of an "exigent circumstance") to the increase in the Consumer Price Index. This cap works to ensure funding stability and predictability for mailers. Under this current federal law, the USPS implemented a rate adjustment in early 2019 affecting all market dominant classes (periodicals, standard mail, first class mail, package services and special services), which was based on an average inflation-based rate increase for each class of mail.

In December 2018, the U.S. Department of the Treasury released the White House Task Force report on the United States Postal System. The report provides a series of recommendations to overhaul the United States Postal Service’s business model in order to return it to sustainability without shifting additional costs to taxpayers. The effects of this report on postal rates, regulations and delivery systems are not yet known.

Federal law requires the Postal Regulatory Commission ("PRC") to conduct a periodic review of the overall rate-making structure for the USPS. The PRC issued a proposal in 2018 to increase inflation-based pricing to include an additional 2% – 5% per year. The proposal remains open and it is not known whether the PRC will move forward with such proposal or make modifications. Until the PRC's final determination, mailers have an uncertain future relative to budgeting for postal expenses.

The result of such determination may be reduced demand for printed products, co-mail and freight services as our customers may move more aggressively into other delivery methods such as the many digital and mobile options now available to consumers, which may have an adverse effect on our business.

We are subject to environmental regulation and environmental compliance expenditures, which could increase our costs and subject us to liabilities.

The conduct of our businesses is subject to various environmental laws and regulations administered by federal, state and local government agencies in the United States, as well as to foreign laws and regulations administered by government entities and agencies in markets in which we operate. These laws and regulations and interpretations thereof may change, sometimes dramatically, as a result of political, economic or social events. Changes in laws, regulations or governmental policy and the related interpretations may alter the environment in which we do business and, therefore, may impact our results or increase our costs and liabilities.

Various laws and regulations addressing climate change are being considered at the federal and state levels. Proposals under consideration include limitations on the amount of greenhouse gas that can be emitted. Such proposals may have a negative impact on our consolidated statements of operations, balance sheets and cash flows if capital spend or increased resources are required for compliance.

The competitiveness, success and growth of our business may depend on our ability to refurbish or replace our infrastructure, which could result in an increase in our capital expenditures and such capital expenditures could be substantial. We may be required to invest more in capital expenditures than we have done historically.

Capital expenditures, such as software upgrades or machinery replacements, may be necessary from time to time to preserve the competitiveness, success and growth of our business. The industry in which we operate is highly competitive and is expected to remain competitive. We may be required to invest amounts in capital expenditures that exceed our recent spending levels to replace worn out or obsolete machinery or otherwise remain competitive. If cash from operations is insufficient to provide for needed levels of capital expenditures and we are unable to obtain funds for such purposes elsewhere, we may be unable to make necessary upgrades or repairs to our software and facilities. An increase in capital expenditures could affect our ability to compete effectively and could have a negative impact on our consolidated statements of operations, balance sheets and cash flows .

The failure to adapt to technological changes to address the changing demands of customers or the failure to implement new required processes or procedures in connection with the expansion of our products and services into new areas may adversely impact our business.

Many of the end markets in which our customers compete are experiencing changes due to technological progress and changes in consumer preferences. In order to remain competitive, we will need to continue to adapt to future changes in technology, enhance our existing offerings and introduce new offerings to address the changing demands of customers. If we are unable to continue to exploit new and existing technologies to distinguish our products and services from those of our competitors or adapt to new distribution methods, our business may be adversely affected.

Technological developments, changing demands of customers and the expansion of our products and services into new areas may require additional investment in new equipment and technologies, as well as the implementation of additional necessary or required compliance procedures and processes to which we are not currently subject. The development of such solutions may be costly and there is no assurance that these solutions will be accepted by customers. Furthermore, our compliance with new procedures and processes may increase our costs and, in the event we are unable to comply, may reduce our customers' willingness to work with us. If we are unable to adapt to technological changes on a timely basis or at an acceptable cost, or if we cannot comply with these necessary or required procedures or processes, customers' demand for our products and services may be adversely affected.

Our services depend on the reliability of computer systems maintained by us and our vendors and the ability to implement and maintain information technology and security measures to protect against security breaches and data leakage.

We depend on our information technology and data processing systems to operate our business, and a significant malfunction or disruption in the operation of our systems, or a security breach or a data leak that compromises the confidential and sensitive information of ours and of our customers stored in those systems, could disrupt our business, harm our reputation with customers and adversely impact our ability to compete. These systems include systems that we own and operate, as well as those systems of our vendors.

Our systems are integral to the operation of our business, because they allow us to share information that may be confidential in nature to our customers across our offices worldwide, which allows us to increase global reach for our customers, or they allow us to offer products that are dependent upon access to the systems. Such systems are susceptible to malfunctions and interruptions due to equipment damage, power outages and a range of other hardware, software and network problems. Those systems are also susceptible to cybercrime, or threats of intentional disruption, which are increasing in terms of sophistication and frequency. Our systems are also susceptible to breaches due to intentional employee misconduct. For any of these reasons, we may experience systems malfunctions or interruptions or leakage of confidential information. A significant or large-scale malfunction or interruption of any one of our computer or data processing systems, or the leakage of confidential information due to a malfunction or breach of our systems or employee misconduct, could adversely affect our ability to manage and keep our operations running efficiently, and damage our reputation if we are unable to track transactions, deliver products and safeguard our customers' confidential information. A malfunction that results in a wider or sustained disruption to our business could negatively impact our consolidated statements of operations, balance sheets and cash flows .

In addition, we may from time to time acquire companies or businesses that do not have cybersecurity practices and procedures consistent with ours, and we may need to invest in bringing those businesses onto our existing systems or updating them to comply with ours. Such systems may be more vulnerable to attack or malfunction than our systems until such time as we are able to integrate the business.

We have incurred substantial indebtedness and the degree to which we are currently leveraged may materially and adversely affect our business and consolidated statements of operations, balance sheets and cash flows .

We have $767 million of indebtedness as of December 31, 2018. Our ability to make payments on and to refinance our indebtedness, including the debt incurred in connection with the separation, as well as any future debt that we may incur, will depend on our ability to generate cash in the future from operations, financings or asset sales. Our ability to generate cash is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. We may not generate sufficient funds to service our debt and meet our business needs, such as funding working capital or the expansion of our operations. If we are not able to repay or refinance our debt as it becomes due we may be forced to take disadvantageous actions, including facility closures, staff reductions, reducing financing in the future for working capital, capital expenditures and general corporate purposes, selling assets or dedicating an unsustainable level of our cash flow from operations to the payment of principal and interest on our indebtedness, and restricting future capital return to stockholders. In addition, our ability to withstand competitive pressures and to react to changes in the print and related services industry could be impaired. The lenders who hold our debt could also accelerate amounts due in the event that we default, which could potentially trigger a default or acceleration of the maturity of our other debt.

In addition, our leverage could put us at a competitive disadvantage compared to our competitors who may be less leveraged. These competitors could have greater financial flexibility to pursue strategic acquisitions and secure additional financing for their operations. Our leverage could also impede our ability to withstand downturns in our industry or the economy in general.

The agreements and instruments that govern our debt impose restrictions that may limit our operating and financial flexibility.

The Credit Agreement that governs our Senior Secured Credit Facilities and the indenture that governs the Senior Secured Notes contain a number of significant restrictions and covenants that limit our ability to:

- incur additional debt;
- pay dividends, make other distributions or repurchase or redeem our capital stock;
- prepay, redeem or repurchase certain debt;
- make loans and investments;
- sell, transfer or otherwise dispose of assets;
- incur or permit to exist certain liens;

- enter into certain types of transactions with affiliates;
- enter into agreements restricting our subsidiaries' ability to pay dividends; and
- consolidate, merge or sell all or substantially all of our assets.

These covenants can have the effect of limiting our flexibility in planning for or reacting to changes in our business and the markets in which we compete. In addition, the Credit Agreement that governs our Senior Secured Credit Facilities requires us to comply with certain financial maintenance covenants. Operating results below current levels or other adverse factors, including a significant increase in interest rates, could result in our being unable to comply with the financial covenants contained in our Term Loan Facility and indenture. If we violate covenants under our Senior Secured Credit Facilities and indenture and are unable to obtain a waiver from our lenders, our debt under our Senior Secured Credit Facilities and indenture would be in default and could be accelerated by our lenders. Because of cross-default provisions in the agreements and instruments governing our debt, a default under one agreement or instrument could result in a default under, and the acceleration of, our other debt.

If our debt is accelerated, we may not be able to repay our debt or borrow sufficient funds to refinance it. Even if we are able to obtain new financing, it may not be on commercially reasonable terms, on terms that are acceptable to us, or at all. If our debt is in default for any reason, our business and consolidated statements of operations, balance sheets and cash flows could be materially and adversely affected. In addition, complying with these covenants may also cause us to take actions that are not favorable to holders of the notes and may make it more difficult for us to successfully execute our business strategy and compete against companies that are not subject to such restrictions.

The anticipated changes to London Inter-Bank Offered Rate ("LIBOR") after 2021 could impact the cost of our variable rate indebtedness.

Some of our debt, including our credit facility, has a variable rate of interest linked to the LIBOR as a benchmark for establishing the rate. In July 2017, the United Kingdom's Financial Conduct Authority (FCA), which regulates LIBOR, announced that it intends to stop persuading or compelling banks to submit rates for the calculation of LIBOR to the administrator of LIBOR after 2021. It is likely that banks will not continue to provide submissions for the calculation of LIBOR after 2021 and possible that they may not provide submissions before then. It is impossible to predict whether LIBOR will continue to be viewed as an acceptable market benchmark, what effects any changes to LIBOR or the transition to alternative reference rates may have on the on variable rate credit facility loans or on our business, financial condition or results of operations. The consequence of these developments cannot be entirely predicted but could include an increase in the cost of our variable rate indebtedness.

If LIBOR rates are no longer available or viewed as an acceptable market benchmark, and our lenders are required, or exercise discretion, to implement substitute reference rates for the calculation of interest rates under our credit facility, we may incur significant expenses in effecting the transition, and may be subject to disputes or litigation with lenders over the appropriateness or comparability to LIBOR of the substitute reference rates, which could have an adverse effect on our business, financial condition or results of operations.

Despite our substantial indebtedness, we may be able to incur substantially more debt.

Despite our substantial amount of indebtedness, we may be able to incur substantial additional debt, including secured debt, in the future. Although the indenture governing our Senior Notes and the Credit Agreement governing the Senior Secured Credit Facilities restrict the incurrence of additional debt, these restrictions are subject to a number of qualifications and exceptions. Also, these restrictions do not prevent us from incurring obligations that do not constitute indebtedness. In addition, as of December 31, 2018, we had $214 million available for additional borrowing under our Revolving Facility. The more indebtedness we incur, the further exposed we become to the risks associated with substantial leverage described above.

The ongoing effects of the Tax Act and the refinement of provisional estimates could make our results difficult to predict.

Our effective tax rate may fluctuate in the future as a result of the Tax Act, which was enacted on December 22, 2017. The Tax Act introduced significant changes to U.S. income tax law that had a meaningful i mpact on our provision for income taxes. Further, the U.S. Treasury Department, the Internal Revenue Service ("IRS") and other standard-setting bodies may issue guidance or regulations on how the provisions of the Tax Act will be applied or otherwise administered that is different from our interpretation. Accounting for the income tax effects of the Tax Act requires significant judgments and estimates in the interpretation and calculations of the provisions of the Tax Act.

Risks Relating to Our Common Stock and the Securities Market

We cannot assure you that we will continue to pay dividends on our common stock, and our indebtedness could limit our ability to pay dividends on our common stock.

The timing, declaration, amount and payment of any future dividends to LSC Communications stockholders will fall within the discretion of our Board of Directors. Our Board's decisions regarding the payment of future dividends will depend on many factors, including our financial condition, future prospects, earnings, capital requirements and debt service obligations, as well as legal requirements, regulatory constraints, industry practice and other factors that our Board deems relevant. In addition, the terms of the agreements governing our debt or debt that we may incur in the future may continue to limit or prohibit the payment of dividends. While our Board declared a quarterly cash dividend of $0.26 per common share on January 17, 2019 payable on March 4, 2019, there can be no assurance that we will continue to pay a dividend.

Delaware law and anti-takeover provisions in our organizational documents may discourage our acquisition by a third party, which could make it more difficult to acquire us and limit your ability to sell your shares at a premium.

Certain provisions of our Certificate of Incorporation and By-laws and Delaware law may discourage, delay or prevent a merger or acquisition that is opposed by our board of directors. These provisions include:

- the ability of our board of directors to issue preferred stock in one or more series with such rights, obligations and preferences as the board of directors may determine, without further vote or action by our stockholders;
- the initial classification of our board of directors, which effectively prevents stockholders from electing a majority of the directors at any one annual meeting of stockholders until the second annual meeting of stockholders after the separation;
- advanced notice procedures for stockholders to nominate candidates for election to the board of directors and for stockholders to submit proposals for consideration at a meeting of stockholders;
- inability of stockholders to act by written consent;
- restrictions on the ability of our stockholders to call a special meeting of stockholders; and
- the absence of cumulative voting rights for our stockholders.

We are also subject to Section 203 of the Delaware General Corporation Law which, subject to certain exceptions, prohibits "business combinations" between a publicly-held Delaware corporation and an "interested stockholder," which is generally defined as a stockholder who becomes a beneficial owner of 15% or more of a Delaware corporation's voting stock for a three-year period following the date that such stockholder became an interested stockholder. This statute, as well as the provisions in our organizational documents, could have the effect of delaying, deterring or preventing certain potential acquisitions or a change in control of us.

Stockholders' percentage ownership in LSC Communications may be diluted in the future.

Stockholders' percentage ownership in LSC Communications may be diluted in the future because of equity securities we issue, either as consideration for acquisitions, in connection with capital raises or for equity awards that we may grant to our directors, officers and employees. Further, to the extent that LSC Communications raises additional capital through the sale of equity or convertible debt securities, existing ownership interests will be diluted, and the terms of such financings may include liquidation or other preferences that adversely affect the rights of existing stockholders. Any such transaction will dilute stockholders' ownership in LSC Communications.

Risks Relating to the Merger

Because the exchange ratio is fixed and because the market price of Quad/Graphics class A common stock may fluctuate, LSC stockholders cannot be certain of the precise value of the merger consideration they may receive.

Under the terms of the merger agreement, at the time the merger is consummated, each eligible share of LSC common stock will be converted into the right to receive 0.625 shares of Quad/Graphics class A common stock, subject to adjustment for any reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other similar change in capitalization. The exchange ratio will not be adjusted for changes in the market price of Quad/Graphics class A common stock or LSC common stock prior to the consummation of the merger. If the merger is consummated, there will be a time lapse between each of the date of the Company's Proxy Statement relating to the Merger, as filed with the SEC on January 22, 2019 (the "Merger Proxy"), the dates on which LSC stockholders vote to approve the merger agreement proposal at the LSC special meeting and Quad/Graphics shareholders vote to approve the share issuance proposal at the Quad/ Graphics special meeting, and the date on which LSC stockholders entitled to receive the merger consideration actually receive the merger consideration. The market value of shares of Quad/Graphics class A common stock may fluctuate during and after these periods as a result of a variety of factors, including general market and economic conditions, changes in Quad/Graphics' businesses, operations and prospects and regulatory considerations. Such factors are difficult to predict and in many cases may be beyond the control of Quad/Graphics and LSC. Consequently, at the time LSC stockholders must decide whether to approve the merger agreement proposal, they will not know the actual market value of any merger consideration they will receive when the merger is consummated. The actual value of any merger consideration received by LSC stockholders at the consummation of the merger will depend on the market value of the shares of Quad/Graphics class A common stock at that time. This market value may differ, possibly materially, from the market value of shares of Quad/Graphics class A common stock at the time the merger agreement was entered into or at any other time. LSC stockholders should obtain current stock quotations for shares of Quad/Graphics class A common stock before voting their shares of LSC common stock.

The market price of Quad/Graphics class A common stock will continue to fluctuate after the merger.

Upon consummation of the merger, holders of LSC common stock who receive the merger consideration will become holders of shares of Quad/Graphics class A common stock. The market price of Quad/Graphics class A common stock may fluctuate significantly following consummation of the merger and holders of LSC common stock could lose some or all of the value of their investment in Quad/Graphics class A common stock.

LSC stockholders will have a reduced ownership and voting interest in Quad/Graphics following the merger compared to their ownership in LSC and will exercise less influence over management.

Currently, LSC stockholders have the right to vote in the election of LSC's board of directors and the power to approve or reject any matters requiring stockholder approval under Delaware law and under LSC's certificate of incorporation and bylaws. Upon consummation of the merger, each LSC stockholder who receives the merger consideration will become a shareholder of Quad/Graphics with a percentage ownership of Quad/Graphics that is smaller than the LSC stockholder's current percentage ownership of LSC. Based on the number of issued and outstanding shares of Quad/Graphics class A common stock and the number of shares of LSC common stock outstanding as of January 7, 2019, and the exchange ratio, after the merger, LSC stockholders are expected to, collectively, become owners of approximately 29.6% of the economic ownership of Quad/Graphics following the merger, and approximately 11.1% of the voting power of Quad/Graphics following the merger, in each case, without giving effect to any shares of Quad/Graphics class A common stock held by LSC stockholders prior to the consummation of the merger. Even if all former LSC stockholders voted together on all matters presented to Quad/Graphics shareholders, the former LSC stockholders would exercise significantly less influence over Quad/Graphics after the consummation of the merger relative to their influence over LSC prior to the consummation of the merger, and thus would have a less significant impact on the approval or rejection of future Quad/Graphics proposals submitted to a shareholder vote. Further, while Quad/Graphics has agreed under the merger agreement to increase the size of the Quad/Graphics board of directors in order to cause two current members of the LSC board of directors mutually agreed by LSC and Quad/Graphics, at the direction of the trustees of the Quad/Graphics voting trust, to be appointed to the Quad/Graphics board of directors, there is no assurance that such directors will remain as members of the Quad/Graphics board of directors beyond their initial term.

Shares of Quad/Graphics class A common st ock received by LSC stockholders as a result of the merger will have different rights from shares of LSC common stock.

Upon consummation of the merger, LSC stockholders will no longer be stockholders of LSC and will become shareholders of Quad/Graphics. There are important differences between the current rights of LSC stockholders and the rights to which such stockholders will be entitled as shareholders of Quad/Graphics. For a discussion of the different rights associated with the shares of Quad/Graphics class A common stock, see the section entitled "Comparison of the Rights of Quad/Graphics Shareholders and LSC Stockholders" in the Merger Proxy.

The merger agreement may be terminated in accordance with its terms and the merger may not be consummated.

The merger agreement is subject to a number of conditions that must be fulfilled in order to consummate the merger, which are described in the section entitled "The Merger Agreement—Conditions to the Consummation of the Merger" in the Merger Proxy. Those conditions include, among others: (i) the adoption of the merger agreement by LSC stockholders, (ii) the approval of the share issuance proposal by Quad/Graphics' shareholders, (iii) the expiration of the applicable waiting period under the HSR Act, and other required regulatory approvals, (iv) the absence of any governmental order or law that precludes, restrains, enjoins or otherwise prohibits, the consummation of the merger or the other transactions contemplated by the merger agreement, and (v) Quad/Graphics' shares of class A common stock issuable in the merger having been approved for listing on the NYSE. These conditions to the closing of the merger may not be fulfilled in a timely manner or at all, and, accordingly the merger may be delayed or may not be consummated.

In addition, the parties can mutually decide to terminate the merger agreement at any time, before or after obtaining shareholder approval, or, if the merger is not consummated by October 30, 2019, either Quad/Graphics or LSC may choose to terminate the merger agreement and not proceed with the merger. Quad/Graphics or LSC may also elect to terminate the merger agreement in certain other circumstances as further detailed in the section entitled "The Merger Agreement—Termination" in the Merger Proxy.

The merger agreement limits LSC's ability to pursue alternatives to the merger.

The merger agreement contains provisions that may discourage a third party from submitting an acquisition proposal (as defined in the section titled "The Merger Agreement—Non-Solicitation of Acquisition Proposals; Changes of Recommendation—Definition of Acquisition Proposal" in the Merger Proxy) to LSC that might result in greater value to LSC stockholders than the merger, or may result in a potential competing acquirer of LSC proposing to pay a lower per share price to acquire LSC than it might otherwise have proposed to pay. These provisions include a general prohibition on LSC soliciting or, subject to certain exceptions relating to the exercise of fiduciary duties by the LSC board of directors, furnishing information with respect to LSC or entering into discussions with any third party regarding any acquisition proposal or offer for a competing transaction. LSC also has an unqualified obligation to submit the merger agreement proposal to a vote by LSC stockholders, even if LSC receives an alternative acquisition proposal that the LSC board of directors believes is superior to the merger, unless the merger agreement is terminated in accordance with its terms prior to such time. In the event that LSC terminates the merger agreement to enter into an alternative acquisition that the LSC board of directors believes is superior to the merger, LSC will be required by the merger agreement to pay Quad/Graphics a termination fee of $12.5 million plus reimburse Quad/Graphics up to $2 million for reasonable and documented out-of-pocket expenses related to the merger agreement and the transactions contemplated thereby.

Failure to consummate the merger could negatively impact the stock price and the future business and financial results of Quad/Graphics and LSC.

The merger agreement contains a number of conditions that must be satisfied or waived prior to the consummation of the merger. There can be no assurance that all of the conditions to the consummation of the merger will be so satisfied or waived. If the conditions to the merger are not satisfied or waived, Quad/Graphics and LSC will be unable to consummate the merger and the merger agreement may be terminated.

If the merger is not consummated for any reason, the ongoing businesses of LSC may be adversely affected and, without realizing any of the benefits of having consummated the merger, LSC will be subject to a number of risks, including the following:

- LSC may experience negative reactions from the financial markets, including negative impacts on the market price of shares of LSC common stock;

- the manner in which customers, vendors, business partners and other third parties perceive LSC may be negatively impacted, which in turn could affect LSC's marketing operations and their ability to compete for new business or obtain rene wals in the marketplace more broadly;
- customers, suppliers and other third parties who have business relationships with LSC may decide not to renew such relationships or seek to terminate, change and/or renegotiate their relationships with LSC as a result of the transaction, whether pursuant to the terms of their existing agreements with LSC or otherwise;
- LSC may experience negative reactions from employees;
- LSC may be required to pay Quad/Graphics a termination fee of $12.5 million and reimburse Quad/Graphics for its out-of-pocket expenses up to $2 million, and LSC may only receive from Quad/Graphics a termination fee of $45 million if the merger is terminated under certain circumstances;
- LSC may be required to pay certain costs relating to the merger, even if the merger is not consummated;
- under the merger agreement, LSC is subject to certain restrictions on the conduct of their businesses prior to consummating the merger, which may affect our ability to execute certain of their business strategies; and
- the attention of LSC management may be directed towards the consummation of the merger and merger-related considerations and may be diverted from the day-to-day business operations of LSC, and matters related to the merger may require commitments of time and resources that could otherwise have been devoted to other opportunities that might have been beneficial to LSC. If the merger is not consummated, the price of LSC common stock may decline to the extent that the current market price reflects a market assumption that the merger will be consummated and that the related benefits will be realized, or to the extent there is a market perception that the merger was not consummated due to an adverse change in the business of LSC.

The regulatory approvals required for the consummation of the merger may not be obtained or may take longer than expected to be received. In addition, an adverse outcome of any antitrust or similar review undertaken by a governmental authority could prevent the merger from being consummated or have an adverse effect on Quad/Graphics following the merger.

Consummation of the merger is conditional upon receipt of certain regulatory approvals, including, without limitation, the expiration or termination of the waiting period under the HSR Act in the United States and Mexico antitrust approval. Although Quad/Graphics and LSC have agreed to use their reasonable best efforts to obtain the requisite regulatory approvals, there can be no assurance that these approvals will be obtained.

In addition, the regulatory authorities from which these approvals are required may impose conditions on the consummation of the merger or require changes to the terms of the merger. In attempting to obtain the requisite regulatory approvals, neither Quad/Graphics nor any of its subsidiaries will be required to make any divestiture, sale or other disposition of its assets or businesses. However, although it is not required under the merger agreement to do so, if Quad/Graphics agrees to such conditions in order to obtain any approvals required to consummate the merger, then the business and results of operations of Quad/Graphics following the merger may be adversely affected.

Furthermore, if the merger agreement is terminated under certain circumstances as further detailed in the section entitled "The Merger Agreement—Termination" in the Merger Proxy due to failure to obtain regulatory approvals or the material breach of Quad/Graphics of its obligations in respect of obtaining regulatory approvals, Quad/Graphics will pay LSC a reverse termination fee of $45 million.

The synergies expected to be produced may not be realized or may require Quad/Graphics after the consummation of the merger to incur additional costs that may adversely affect the value of Quad/Graphics' class A common stock.

The success of the merger will depend, in part, on Quad/Graphics' ability to realize the synergies expected to be produced from integrating LSC's businesses with Quad/Graphics' existing business through capacity rationalization, the elimination of duplicative functions, greater operational efficiencies and greater efficiencies in supply chain management, among other areas. Quad/Graphics has identified approximately $135 million of annualized net synergies that are expected to be achieved in less than 24 months after the consummation of the merger.

Quad/Graphics' management estimates that the total cost to Quad/Graphics of achieving the annualized net synergies will be approximately $135 million in integration costs. Quad/Graphics' estimates are based on a number of assumptions, which may prove incorrect.

Following the merger, Quad/Graphics may also incur additional and/or unexpected costs in order to realize the anticipated synergies. While Quad/Graphics' management believes that the annualized net synergies are achievable, it may be unable to realize all of the synergies within the time frame expected or at all. The integration process will be complex, costly and time-consuming. The difficulties of integrating LSC's businesses may include, among others:

- unanticipated issues in integrating manufacturing, logistics, information, communications, and other systems;
- unanticipated changes in applicable laws and regulations;
- failure to retain key employees, which might adversely affect operations and the ability to retain other employees;
- preserving significant business relationships;
- consolidating corporate and administrative functions; and
- other unanticipated issues, expenses and liabilities.

Quad/Graphics may not accomplish the integration of LSC's businesses smoothly, successfully or within the anticipated cost range or timeframe. The diversion of the attention of Quad/Graphics' management from current operations to the integration effort and any difficulties encountered in combining operations could prevent Quad/Graphics from realizing the full benefits anticipated to result from the merger and could adversely affect its business.

Quad/Graphics and LSC will incur significant transaction and merger-related costs in connection with the merger, which may be in excess of those anticipated.

Both Quad/Graphics and LSC have incurred and will incur substantial expenses in connection with negotiation and consummation of the transactions contemplated by the merger agreement, including financial and legal advisor fees, financing costs and the costs and expenses of filing, printing and mailing of the joint proxy statement/prospectus relating to the Merger.

Quad/Graphics and LSC expect to continue to incur a number of non-recurring costs associated with consummating the merger, combining the operations of the two companies and achieving desired synergies. These fees and costs have been, and will continue to be, substantial. The substantial majority of the non-recurring expenses will consist of transaction costs related to the merger and include, among others, financing costs, employee retention costs, fees paid to financial, legal, and public relations advisors, severance and benefit costs and filing fees.

Quad/Graphics and LSC will also incur transaction fees and costs related to formulating and implementing integration plans. Additional unanticipated costs also may be incurred while the merger is pending and for a period thereafter for the integration of the two companies' businesses. Although Quad/Graphics and LSC expect that the elimination of duplicative costs, as well as the realization of other efficiencies related to the integration of the businesses, should allow the companies to offset integration-related costs over time, this net benefit may not be achieved in the near-term, or at all. Certain of these costs will be borne by each of Quad/Graphics and LSC even if the merger is not consummated

Lawsuits have been filed against LSC, the LSC board of directors, Quad/Graphics and merger sub challenging the adequacy or completeness of the disclosures made in the initial version of the joint proxy/prospectus filed in connection with the merger on December 11, 2018, and other lawsuits may be filed against LSC, Quad/Graphics and/or their respective boards challenging the merger. An adverse ruling in any such lawsuit may prevent the merger from being consummated.

Three substantially similar actions were filed by an alleged LSC stockholder against some or all of LSC, the directors of LSC, Quad/Graphics and merger sub in the U.S. District Court for the Northern District of Illinois, the U.S. District Court for the Southern District of New York and the U.S. District Court for the District of Delaware challenging the adequacy or completeness of the disclosures to LSC stockholders made in the initial version of the joint proxy statement/prospectus filed on December 11, 2018 regarding the merger. Among other remedies, the plaintiffs seek to enjoin the merger until additional information relating to the merger is disclosed.

Additional lawsuits arising out of the merger may be filed in the future. See the section entitled "The Merger—Transaction Litigation" in the Merger Proxy for more information about litigation related to the merger that has been commenced. There can be no assurance that any of the defendants will be successful in the outcome of the pending or any potential future lawsuits. A preliminary injunction could delay or jeopardize the consummation of the merger, and an adverse judgment granting permanent injunctive relief could indefinitely enjoin the consummation of the merger.

LSC and/or Quad/Graphics may be targets of further securities class action and derivative lawsuits which could result in substantial costs and may delay or prevent the merger from being consum mated.

Securities class action lawsuits and derivative lawsuits are often brought against public companies that have entered into merger agreements. Even if the lawsuits are without merit, defending against these claims can result in substantial costs and divert management time and resources. An adverse judgement could result in monetary damages, which could have a negative impact on Quad/Graphics' and LSC's respective liquidity and financial condition. Additionally, if a plaintiff is successful in obtaining an injunction prohibiting consummation of the merger, then that injunction may delay or prevent the merger from being consummated, which may adversely affect Quad/Graphics' and LSC's respective business, financial position and results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

The Company has no unresolved written comments from the SEC staff regarding its periodic or current reports under the Securities Exchange Act of 1934.

ITEM 2. PROPERTIES

The Company's principal executive office is currently located in leased office space at 191 N. Wacker Drive, Suite 1400, Chicago, IL 60606. The Company operates or owns the following:

- 108 leased or owned locations in approximately 30 states in the U.S., which encompass approximately 26 million square feet, of which 41 are production facilities.
  - Approximately 9 million square feet of space is leased, comprised of 73 U.S. locations.
  - Approximately 17 million square feet of space is owned in 35 locations in the U.S.
- 10 international locations in 2 countries which encompass approximately 2 million square feet, of which 6 are manufacturing facilities.
  - Approximately 1 million square feet of space is leased, comprised of 5 international locations.
  - Approximately 1 million square feet of space is owned in 5 international locations.
  - 6 of our international locations service our Office Products segment.
  - 3 of our international locations service our Mexico segment, which is included in the Other grouping.
  - 1 of our international locations services our Book segment.
  - In Mexico, the Company has 6 production facilities.

The Company's facilities are reasonably maintained and suitable for the operations conducted in them. While the Company has a facility that provides the majority of our mailing services, which is located in Bolingbrook, Illinois, the Company does not believe that this facility, or any other facility, is individually material to our business. In addition, the Company owns or leases additional land for use as parking lots and other purposes in the U.S.

ITEM 3. LEGAL PROCEEDINGS

From time to time, the Company's customers and others file voluntary petitions for reorganization under United States bankruptcy laws. In such cases, certain pre-petition payments received by the Company from these parties could be considered preference items and subject to return. In addition, the Company may be party to certain litigation arising in the ordinary course of business. Management believes that the final resolution of these preference items and litigation will not have a material effect on the Company's consolidated statements of operations, balance sheets and cash flows.

For a discussion of certain litigation involving the Company, including litigation associated with the merger, refer to Note 11, *Commitments and Contingencies,* to the consolidated and combined financial statements.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF L SC COMMUNICATIONS, INC.

Name, Age and Positions with the Company	Business Experience
Thomas J. Quinlan, III 56, President, Chief Executive Officer and Chairman of the Board of Directors	Served as Chairman of the Board and Chief Executive Officer since October 2016. Prior to this, served as RRD's President and Chief Executive Officer since April 2007 and from 2004 in various other positions, including Group President, Chief Financial Officer since April 2006 and Executive Vice President, Operations since February 2004.
Suzanne S. Bettman 54, Chief Administrative Officer and General Counsel	Served as Chief Administrative Officer and General Counsel since October 2016. Prior to this, served as RRD's Executive Vice President, General Counsel, Corporate Secretary and Chief Compliance Officer since January 2007 and as its Senior Vice President, General Counsel since March 2004.
Andrew B. Coxhead 50, Chief Financial Officer	Served as Chief Financial Officer since October 2016. Prior to this, served as RRD's Senior Vice President and Chief Accounting Officer since October 2007, and Corporate Controller from October 2007 to January 2013 and from 1995 in various other positions including in financial planning, accounting, manufacturing management, operational finance and mergers and acquisitions, including as Vice President, Assistant Controller.
Kent A. Hansen 47, Chief Accounting Officer and Controller	Served as Chief Accounting Officer and Controller since October 2016. Prior to this, served as Vice President, Assistant Controller, of Baxalta, Incorporated, a biopharmaceutical company from 2015 to 2016. Prior to this, served in various finance and accounting roles from 2006 to 2015 with Scientific Games Corporation (formerly WMS Industries, Inc.), including Director of Accounting and SEC Reporting, Assistant Controller, and Group Chief Financial Officer. Prior to this, previous experience included roles in accounting and financial reporting at Accenture and as an auditor at Ernst and Young LLP.
Richard T. Lane 62, Chief Strategy and Supply Chain Officer	Served as Chief Strategy and Supply Chain Officer since October 2016. Prior to this, served as RRD's Executive Vice President of Global Business Solutions and was responsible for Product and Materials sourcing, Customer Service and Global Print Management Sales and Operations and from 1989 to 1997 and since 2005 in various capacities within RRD in sales, strategy and operations, and from 1997 to 2005, with other companies in strategic sales and operations roles.

PART II

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

Principal Market

The principal market for LSC Communications' common stock is the New York Stock Exchange (NYSE). LSC Communications began when issued trading on September 21, 2016 and regular way trading under the symbol "LKSD" on October 3, 2016.

Stockholders

As of February 15, 2019, there were 4,500 stockholders of record of the Company's common stock.

Dividends

The Credit Agreement generally allows annual dividend payments of up to $50 million in aggregate, though additional dividends may be allowed subject to certain conditions. The timing, declaration, amount and payment of any future dividends to the Company's stockholders falls within the discretion of the Company's Board of Directors. The Company declared and paid quarterly dividends of $0.26 per common share totaling $35 million during the year ended December 31, 2018. On January 17, 2019, the Board of Directors declared a quarterly cash dividend of $0.26 per common share, payable on March 4, 2019 to stockholders of record on February 15, 2019. For more information on the Credit Agreement, refer to the Credit Agreement referenced as an exhibit to this annual report on Form 10-K.

Issuer Purchases of Equity Securities

	Total Number of Shares Purchased (a)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs
October 1, 2018 - October 31, 2018	54,044	$ 10.57	—	$ —
November 1, 2018 - November 30, 2018	—	—	—	$ —
December 1, 2018 - December 31, 2018	—	—	—	$ —
Total	54,044	$ —	—	

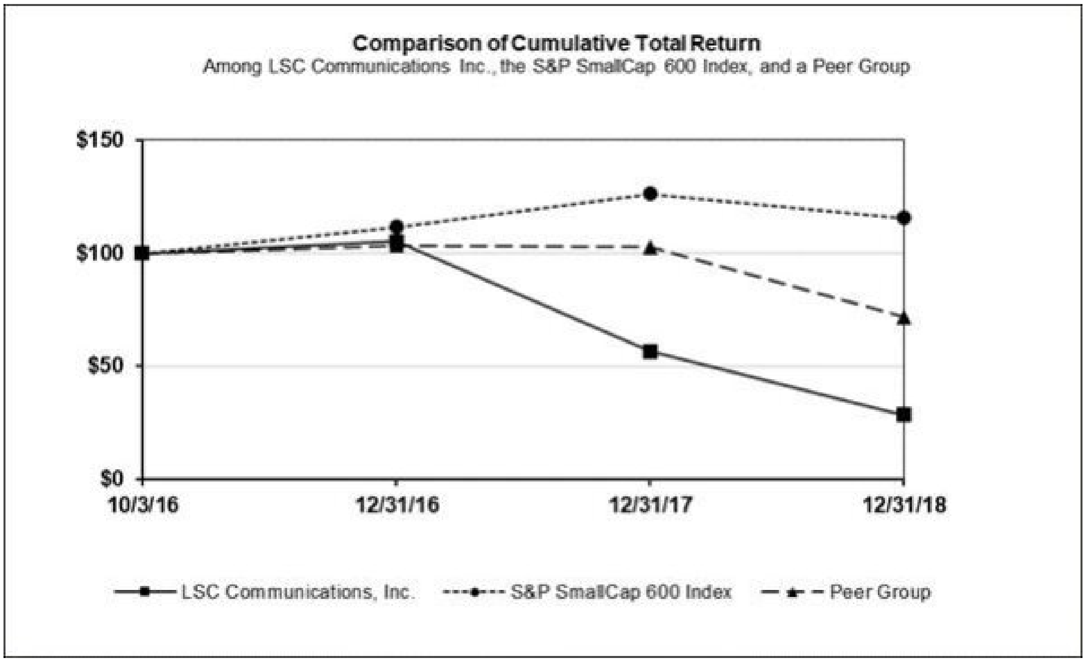
(a) Shares withheld for tax liability upon vesting of equity awards

Equity Compensation Plans

For information regarding equity compensation plans, refer to Item 12 of Part III of this annual report on Form 10-K.

Peer Performance Table

The graph below compares the cumulative total stockholder return on the Company's common stock from October 3, 2016, when regular way trading in the Company's common stock commenced on the NYSE, through December 31, 2018, with the comparable cumulative return of the S&P SmallCap 600 index and a selected peer group of companies. The comparison assumes all dividends have been reinvested, and an initial investment of $100 on October 3, 2016. The returns of each company in the peer group have been weighted to reflect their market capitalizations. The Company itself has been excluded, and its contributions to the S&P SmallCap 600 index have been subtracted out. The peer group was determined by the Company's senior management team as a group of companies within the printing, publishing, and office products industries that most closely align with the Company's business model.



Company / Index	Base Period 10/3/16	Indexed Returns Quarter Ending 12/31/2016	12/31/2017	12/31/2018
LSC Communications, Inc.	100	105.22	56.58	28.61
S&P SmallCap 600 Index	100	111.52	126.28	115.57
Peer Group	100	103.39	102.82	71.81

Below are the specific companies included in the peer group.

Peer Group	
ACCO Brands Corp	Meredith Corp
Deluxe Corp	Office Depot, Inc.
Houghton Mifflin Harcourt Co	Quad/Graphics, Inc.
InnerWorkings, Inc.	R.R. Donnelley & Sons Co
John Wiley & Sons Inc.	Scholastic Corp
McClatchy Co	

ITEM 6. SELECTED FINANCIAL DATA

	in millions, except per share data 2018	2017	2016	2015	2014
Net sales	$ 3,826	$ 3,603	$ 3,654	$ 3,743	$ 3,853
Net (loss) income	(23)	(57)	106	74	58
Net (loss) earnings per basic share (a)	(0.67)	(1.69)	3.25	2.27	1.79
Net (loss) earnings per diluted share (a)	(0.67)	(1.69)	3.23	2.27	1.79
Total assets	1,754	2,014	1,952	2,011	1,869
Long-term debt	659	699	742	3	—
Cash dividends per common share	1.04	1.00	0.25	—	—

Reflects results of acquired businesses from the relevant acquisition dates. Refer to Note 3, *Business Combinations and Disposition* , to the consolidated and combined financial statements for information on acquisitions.

The Company adopted Accounting Standards Update No. 2014-09 "Revenue from Contracts with Customers (Topic 606)" ("ASC 606", or the "standard") on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. The reported results for 2018 reflect the application of ASC 606 guidance while the reported results for years prior to 2018 were prepared and continue to be reported under the guidance of ASC 605, Revenue Recognition, which is also referred to herein as "previous guidance."

(a) On October 1, 2016, RRD distributed approximately 26.2 million shares of LSC Communications common stock to RRD stockholders. RRD retained an additional 6.2 million shares that were sold on March 28, 2017. The computation of net earnings per basic and diluted shares for periods prior to the separation was calculated using the 32.4 million shares distributed and retained by RRD on October 1, 2016. Refer to Note 1, *Overview and Basis of Presentation* , to the consolidated and combined financial statements for information on the separation.

Includes the following significant items:

- **2018:** Pre-tax restructuring, impairment and other charges of $35 million ($27 million after-tax); pre-tax charge of $3 million ($2 million after-tax) for purchase accounting inventory step-up adjustments and changes to purchase price allocations related to prior acquisitions; pre-tax charge of $10 million ($8 million after-tax) for acquisition, merger and disposition-related expenses; and a $25 million non-cash charge recorded primarily for the write-off of a deferred tax asset associated with the disposition of the Company's European printing business.

- **2017:** Pre-tax restructuring, impairment and other charges of $129 million ($92 million after-tax); pre-tax charge of $4 million ($3 million after-tax) for separation-related expenses, pre-tax benefit (net) of $1 million ($1 million after-tax benefit (net)) for purchase accounting adjustments, pre-tax charge of $5 million ($3 million after-tax) for acquisition-related expenses; and pre-tax loss of $3 million ($2 million after-tax) related to debt extinguishment; tax expense of $24 million related to U.S. tax reform legislation;

- **2016:** Pre-tax restructuring, impairment and other charges of $18 million ($12 million after-tax); pre-tax charge of $5 million ($3 million after-tax) for separation-related expenses; and pre-tax charge of $1 million ($0 million after-tax) for lump-sum pension settlement payments;

- **2015:** Pre-tax restructuring, impairment and other charges of $57 million ($39 million after-tax); pre-tax charges of $14 million for acquisition-related expenses ($13 million after-tax); pre-tax charges of $11 million ($7 million after-tax) for inventory purchase accounting adjustments for Courier; and tax expense of $6 million was recorded due to the receipt of an unfavorable court decision related to payment of prior year taxes in an international jurisdiction;

- **2014:** Pre-tax restructuring, impairment and other charges of $132 million ($100 million after-tax); pre-tax gain on bargain purchase of $9 million ($9 million after-tax) related to the acquisition of Esselte Corporation ("Esselte"); pre-tax charges of $2 million ($1 million after-tax) for inventory purchase accounting adjustments for Esselte; and pre-tax charges of $2 million ($1 million after-tax) for acquisition-related expenses.

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

The following discussion of LSC Communications’ financial condition and results of operation should be read together with the consolidated and combined financial statements and Notes to those statements included in Item 15, *Exhibits, Financial Statement Schedules* , of Part IV of this annual report on Form 10-K.

Business

For a description of the Company’s business, segments and product offerings, refer to Item 1, *Business* , of Part I of this annual report on Form 10-K.

Merger Agreement

On October 30, 2018, the Company entered into an Agreement and Plan of Merger (the “Merger Agreement”) with Quad/Graphics, Inc. (“Quad/Graphics”), and QLC Merger Sub, Inc., a direct, wholly-owned subsidiary of Quad/Graphics (“Merger Sub”). Pursuant to the Merger Agreement, subject to the terms and conditions therein, Merger Sub will merge with and into the Company (the “Merger”), with the Company continuing as the surviving corporation. Subject to the terms and conditions set forth in the Merger Agreement, at the effective time of the Merger (the “Effective Time”), each share of the Company’s common stock issued and outstanding immediately prior to the Effective Time, will be converted into the right to receive 0.625 shares of class A common stock of Quad/Graphics, without interest and subject to adjustment as provided in the Merger Agreement.

The Company and Quad/Graphics have made customary representations, warranties and covenants in the Merger Agreement. Subject to certain exceptions outlined in the Merger Agreement, the Company has agreed to covenants relating to the Company’s business during the period between the execution of the Merger Agreement and the consummation of the Merger, including restrictions on its ability to issue any shares of its capital stock, repurchase any shares of its capital stock and incurring additional indebtedness outside the ordinary course of business. The Merger Agreement allows the Company to continue paying a regular quarterly dividend up to $0.26 per share.

On October 30, 2018, concurrently with the execution of the Merger Agreement, the Company and the trustees (the “Trustees”) under the Amended and Restated Voting Trust Agreement, dated as of June 25, 2010, pursuant to which certain shares of capital stock of Quad/Graphics are held by the Quad/Graphics, Inc. Voting Trust (the “Voting Trust”), entered into a voting and support agreement (the “Voting Agreement”). Pursuant to the Voting Agreement, the Trustees will vote all of the shares of Quad/Graphics held by the Voting Trust, which they have, directly or indirectly, the right to vote or direct the voting thereof, in favor of the issuance of class A shares of Quad/Graphics common stock in the Merger, and against any alternative acquisition proposal involving Quad/Graphics or other action that would reasonably be expected to breach the obligations of Quad/Graphics under the Merger Agreement or the Trustees under the Voting Agreement, or otherwise reasonably be expected to delay or adversely affect the Merger or the other transactions contemplated by the Merger Agreement.

The Company and Quad/Graphics filed notification and report forms in connection with the transactions contemplated by the Merger Agreement with the U.S. Department of Justice (the “DOJ”) and the U.S. Federal Trade Commission pursuant to the Hart-Scott-Rodino Antitrust Improvement Act of 1976, as amended (the “HSR Act”) on November 13, 2018. On December 13, 2018, the Company and Quad/Graphics each received a request for additional information and documentary material (the “Second Request”) from the DOJ in connection with the DOJ’s review of the transactions contemplated by the Merger Agreement.

Issuance of the Second Request extends the waiting period under the HSR Act until 30 days after both the Company and Quad/Graphics have substantially complied with the Second Request or such later time as the parties may agree with the DOJ, unless the waiting period is terminated earlier by the DOJ. The Company continues to expect the Merger to be consummated in mid-2019.

Consummation of the Merger remains subject to the adoption of the Merger Agreement by the Company stockholders, the approval by Quad/Graphics shareholders of the issuance of Quad/Graphics shares as contemplated by the Merger Agreement, the expiration of the waiting period under the HSR Act and other required regulatory approvals, and the satisfaction or waiver of the other closing conditions specified in the Merger Agreement.

Segment Information

During the third quarter of 2018, the Company realigned the reportable segments and reporting units to reflect its evolution since its separation from RRD in 2016, as well as changes from recent acquisition and disposal activity. All prior year amounts have been reclassified to conform to the Company's current reporting structure.

OUTLOOK

Vision and Strategy

The Company works with its customers to offer a broad scope of print and print-related capabilities and manage their full range of communication needs. The Company is focused on enhancing its strong customer relationships by expanding to a broader range of offerings. The Company will focus on further expanding its supply chain offerings and driving growth in core and related businesses. The Company will continue to seek opportunities to grow by utilizing core capabilities to expand print and print-related products and services, grow core businesses, strategically increase our geographic coverage, and focus on the expansion of the office products brands. For instance, our end-to-end supply chain services offerings combine print, warehousing, fulfillment and supply chain management into a single workflow designed to increase speed to the market and improve efficiencies across the distribution process. Ongoing investments via organic growth and strategic acquisition in our digital print technology will be an integral part of supporting growth across the Magazines, Catalogs and Logistics and Book segments. Further, other innovative offerings and investments such as co-mailing services and logistics solutions help catalogers and magazine publishers reduce their overall cost of producing and distributing their product as postage expense often accounts for approximately half of these publishers' costs to produce and deliver a catalog or magazine. We have also developed and deployed technologies to help book clients reduce the incidence of book piracy. We have also begun offering end-to-end fulfillment of subscription boxes to address client demand, which we believe will provide additional opportunity for us.

Management believes productivity improvement and cost reduction are critical to the Company's continued competitiveness, and the flexibility of its platform enhances the value the Company delivers to its customers. Our plant rationalization process has resulted in the closure of several facilities in recent years, which we believe has allowed us to realize meaningful cost savings. These cost savings primarily arise from facility related costs, such as overhead, employee costs and selling, general and administrative expenses. The Company continues to implement strategic initiatives across all platforms to reduce its overall cost structure, focus on safety initiatives and enhance productivity, including restructuring, consolidation, reorganization and integration of operations and streamlining of administrative and support activities.

The Company seeks to deploy its capital using a balanced and disciplined approach in order to ensure financial flexibility and provide returns to stockholders. Priorities for capital deployment, over time, include principal and interest payments on debt obligations, distributions to stockholders, targeted acquisitions and capital expenditures. The Company believes that a strong financial condition is important to customers focused on establishing or growing long-term relationships. The Company also expects to make targeted acquisitions that extend its capabilities, drive cost savings and reduce future capital spending needs. We believe these acquisitions may also allow us to achieve synergies. Subject to certain exceptions outlined in the Merger Agreement, the Company has agreed to covenants relating to the Company's business during the period between the execution of the Merger Agreement and the consummation of the Merger, including restrictions on its ability to issue any shares of its capital stock, repurchase any shares of its capital stock, make acquisitions, and incur additional indebtedness outside the ordinary course of business. The Merger Agreement allows the Company to continue paying a regular quarterly dividend up to $0.26 per share.

Management uses several key indicators to gauge progress toward achieving these objectives. These indicators include organic sales growth, operating margins, cash flow from operations, capital expenditures, and Non-GAAP adjusted EBITDA. The Company targets long-term net sales growth at or above industry levels, while managing operating margins by achieving productivity improvements that offset the impact of price declines and cost inflation. Cash flows from operations are targeted to be stable over time, however, cash flows from operations in any given year can be significantly impacted by the timing of non-recurring or infrequent receipts and expenditures, the level of required pension plan contributions, volatility in the cost of raw materials, and the impact of working capital management efforts.

During late 2018 and early 2019, the Company performed a comprehensive review of the Company's entire operations to identify new rev enue opportunities and cost savings. This review covered substantially all aspects of the Company – both operational and support functions – and involved key personnel from throughout the organization. The resulting revenue opportunities and cost savings initiatives were approved by senior management in the first quarter of 2019 and are expected to be implemented over the next three years. While the Company expects to realize the benefits beginning in 2019 and at various points over the next three years, management also anticipates incurring certain one-time expenses, which may be significant, during 2019 relating to the review and implementation of the identified initiatives.

2019 Outlook

The Company's 2019 Outlook is prepared on the assumption that the Merger with Quad/Graphics has not been consummated. This 2019 Outlook does not reflect any changes to the business that may occur as a result of consummation of the Merger.

In 2019, the Company expects overall net sales to decrease as compared to 2018 driven by the dispositions of our European Printing business and retail offset print facilities in 2018, continuing volume declines in magazines catalogs and office products and price pressures in magazines and catalogs. In the magazines, catalogs and logistics segment, the Company expects an organic net sales decline driven by the ongoing shift in advertiser spend from print to electronic media and declines in circulation and page counts. For the book reporting unit, the Company expects overall net sales to be consistent with 2018 levels as growth in volume for elementary and secondary education materials is largely offset by volume declines in college and religious books. Office Products net sales are expected to decrease in 2019 as compared to 2018 as a result of volume declines driven by continuing secular decline, partially offset by the impact of price increases.

While cost inflation driven primarily by tight labor market conditions will continue to pressure operating margins during 2019, the Company also expect to realize significant cost savings from integration of recent acquisitions, restructuring initiatives, and ongoing productivity efforts. The Company has initiated several restructuring actions during 2018 and early in 2019 to further reduce the Company's overall cost structure. These restructuring actions included the closure of two manufacturing facilities in the Magazine, Catalog and Logistics segment. These cost reduction actions are expected to have a positive impact on operating earnings in 2019 and in future years. In addition, the Company expects to realize other cost reduction opportunities through its ongoing focus on productivity improvement, including initiatives identified as part of management's comprehensive review of operations performed in 2018 and early 2019. The Company's cost reduction initiatives may result in significant additional restructuring charges. These restructuring actions will be funded by cash generated from operations and cash on hand or, if necessary, by utilizing the Company's credit facilities.

Cash flows from operations in 2019 are expected to be slightly below those of 2018, primarily due to the impact of significant working capital reductions achieved in 2018. The Company expects capital expenditures to be in the range of $75 million to $85 million in 2019. Capital expenditures are expected to be primarily directed towards increased automation and productivity, equipment to enable cost reduction through facility closures, and growth opportunities driven mainly by specific customer needs.

The Company's net pension liability was $137 million as of December 31, 2018, as reported on the Company's consolidated balance sheet and further described in Note 14, *Retirement Plans* , to the consolidated and combined financial statements. Governmental regulations for measuring pension plan funded status differ from those required under accounting principles generally accepted in the United States of America ("GAAP") for financial statement preparation. Based on the plans' regulatory funded status, there are no required contributions for the Company's U.S. Qualified Plan in 2019. The Company does expect to make approximately $6 million of pension contributions in 2019, primarily for its non-qualified plan.

In the first quarter of 2019, the Company completed a partial settlement of its retirement benefit obligations by purchasing a group annuity contract for certain retirees and beneficiaries from a third-party insurance company. As a result, the Company's pension assets and liabilities are required to be remeasured as of the settlement date. As of the remeasurement date, the reduction in the reported pension obligation for the participants under the annuity contract was approximately $477 million and the reduction in plan assets was approximately $466 million. The Company expects to record a non-cash settlement charge in the range of approximately $130 million to $140 million in the first quarter of 2019. This charge results from the recognition in earnings of a portion of the actuarial losses recorded in accumulated other comprehensive loss based on the proportion of the obligation settled. The settlement accounting is expected be completed in the first quarter of 2019. In 2019, the Company expects annual non-cash net pension income to decrease by approximately $13 million, to $35 million, due to the reduction in pension trust assets related to the transaction combined with a lower expected return on plan assets due to a change in asset allocation as part of the Company's pension de-risking strategy.

SIGNIFICANT ACCOUNTING POLICIES AND CRITICAL ESTIMATES

Basis of Presentation

The preparation of consolidated and combined financial statements, in conformity with GAAP, requires the extensive use of management's estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure 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. Estimates are used when accounting for items and matters including, but not limited to, allowance for uncollectible accounts receivable, inventory obsolescence, asset valuations and useful lives, taxes, restructuring and other provisions and contingencies.

The Company's most critical accounting policies are those that are most important to the portrayal of its financial condition and results of operations, and that require the Company to make its most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. The Company has identified the following as its most critical accounting policies and judgments. Although management believes that its estimates and assumptions are reasonable, they are based upon information available when they are made, and therefore, actual results may differ from these estimates under different assumptions or conditions.

Prior to the separation, the combined financial statements were prepared on a stand-alone basis and were derived from RRD's consolidated financial statements and accounting records. They included certain expenses of RRD that were allocated to LSC Communications for certain corporate functions, including healthcare and pension benefits, information technology, finance, legal, human resources, internal audit, treasury, tax, investor relations and executive oversight. These expenses were allocated to the Company on the basis of direct usage, when available, with the remainder allocated on a pro rata basis by revenue, employee headcount, or other measures. After the separation, the Company no longer records allocated amounts from RRD.

Revenue Recognition

As previously mentioned, the Company adopted ASC 606 on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. The reported results for 2018 reflect the application of ASC 606 guidance while the reported results for years prior to 2018 were prepared and continue to be reported under the previous guidance.

The Company recognizes revenue at a point in time for substantially all customized products. The point in time when revenue is recognized is when the performance obligation has been completed and the customer obtains control of the products, which is generally upon shipment to the customer (dependent upon specific shipping terms).

Under agreements with certain customers, custom products may be stored by the Company for future delivery. Based upon contractual terms, the Company is typically able to recognize revenue once the performance obligation is satisfied and the customer obtains control of the completed product, usually when it completes production (depending on the specific facts and circumstances). In these situations, the Company may also receive a logistics or warehouse management fee for the services it provides, which the Company recognizes over time as the services are provided.

With certain customer contracts, the Company is permitted to complete a pre-defined amount of custom products and hold such inventory until the customer requests shipment (which generally is required to be delivered in the same year as production). For these items, which include consigned inventory, the Company has the contractual right to receive payment once the production is completed, regardless of the ultimate delivery date. Based upon contractual terms, the Company recognizes revenue once the performance obligation has been satisfied and the customer obtains control of the completed products, usually when production is completed.

In very limited situations, the Company is permitted to produce and hold in inventory a pre-defined amount of custom products as safety stock. Similar to completed production held in inventory, for these items, the Company has the contractual right to receive payment for the pre-defined amount once the production is completed, regardless of the ultimate delivery date. Based upon our evaluation of the contractual terms, the Company is able to recognize revenue once the performance obligation has been satisfied and the customer obtains control of the completed product, usually when production is completed.

Revenue from the Company's print related services (including list processing, mail sortation services and supply chain management) is recognized as services are completed over time.

Revenue is measured as the amount of consideration the Company expects to receive i n exchange for transferring goods or providing services, which is based on transaction prices set forth in contracts with customers and an estimate of variable consideration, as applicable.

Variable consideration resulting from volume rebates, fixed rebates, penalties or credits for paper consumption, and sales discounts that are offered within contracts between the Company and its customers is recognized in the period the related revenue is recognized. Estimates of variable consideration are based on stated contract terms and an analysis of historical experience. The amount of variable consideration is included in the net sales price only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period.

A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The majority of our contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. For contracts with multiple performance obligations, such as co-mail and catalog production, the transaction price allocated to each performance obligation is based on the price stated in the customer contract, which represents the Company's best estimate of the standalone selling price of each distinct good or service in the contract.

Billings for shipping and handling costs are recorded gross. The Company made an accounting policy election under ASC 606 to account for shipping and handling after the customer obtains control of the good as fulfillment activities rather than as a separate service to the customer. As a result, the Company accrues the costs of the shipping and handling if revenue is recognized for the related good before the fulfillment activities occur.

Many of the Company's operations process materials, primarily paper, that may be supplied directly by customers or may be purchased by the Company and sold to customers as part of the end product. No revenue is recognized for customer-supplied paper, but revenues for Company-supplied paper are recognized on a gross basis. As a result, the Company's reported sales and margins may be impacted by the mix of customer-supplied paper and Company-supplied paper.

The Company records taxes collected from customers and remitted to governmental authorities on a net basis.

Contracts do not contain a significant financing component as payment terms on invoiced amounts are typically between 30 to 120 days, based on the Company's credit assessment of individual customers, as well as industry expectations.

The timing of revenue recognition, billings and cash collections results in accounts receivable and unbilled receivables (contract assets), and customer advances and deposits (contract liabilities) on the consolidated balance sheet. Revenue recognition generally coincides with the Company's contractual right to consideration and the issuance of invoices to customers. Depending on the nature of the performance obligation and arrangements with customers, the timing of the issuance of invoices may result in contract assets or contract liabilities. Contract assets related to unbilled receivables are recognized for satisfied performance obligations for which the Company cannot yet issue an invoice. Contract liabilities result from advances or deposits from customers on performance obligations not yet satisfied.

Because the majority of the Company's products are customized, product returns are not significant; however, the Company accrues for the estimated amount of customer returns at the time of sale.

Refer to Note 4, *Revenue Recognition* , to the consolidated and combined financial statements for information related to new standard.

Goodwill and Other Long-Lived Assets

Goodwill – Overview

The Company's methodology for allocating the purchase price of acquisitions is based on established valuation techniques that reflect the consideration of a number of factors, including valuations performed by third-party appraisers when appropriate. Goodwill is measured as the excess of the cost of an acquired entity over the fair value assigned to identifiable assets acquired and liabilities assumed. Based on its current organization structure as of December 31, 2018, the Company has identified seven reporting units for which cash flows are determinable and to which goodwill may be allocated. Goodwill is assigned to a specific reporting unit, depending on the nature of the underlying acquisition.

The Company performs its goodwill impairment tests annually as of October 31, or more frequently if an event occurs or c ircumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. The Company also performs an interim review for indicators of impairment each quarter to assess whether an interim impairment review is required for any reporting unit. As part of its interim reviews, management analyzes potential changes in the value of individual reporting units based on each reporting unit's operating results for the period compared to expected results as of the prior y ear's annual impairment test. In addition, management considers how other key assumptions, including discount rates and expected long-term growth rates, used in the last annual impairment test could be impacted by changes in market conditions and economic events.

Goodwill - Logistics, Book and Office Products Reporting Units

As of October 31, 2018, only three reporting units had goodwill: logistics, Book and Office Products. The goodwill balances as of October 31, 2018 for the logistics, Book and Office Products reporting units were $24 million, $51 million and $31 million, respectively. The goodwill balance in logistics resulted from the Company's acquisition of Print Logistics on July 2, 2018.

For the logistics, Book and Office Products reporting units, management assessed goodwill impairment risk by first performing a qualitative review of entity specific, industry, market and general economic factors for each reporting unit. For Book and Office Products, the Company was not able to conclude that it is more likely than not that the fair values of our reporting units are greater than their carrying values, and therefore, a one-step method for determining goodwill impairment was applied as of October 31, 2018. The Company compared the estimated fair value of a reporting unit with its carrying amount, including goodwill. If the carrying amount of a reporting unit is greater than zero and its fair value exceeds its carrying amount, goodwill of the reporting unit is considered not impaired. However, if the carrying amount of a reporting unit exceeds its fair value, the goodwill is considered impaired and a full or partial write-off of goodwill would be required.

The fair value determinations included estimating the fair value of each reporting unit using both the income and market approaches. The income approach requires management to estimate a number of factors for each reporting unit, including projected future operating results, economic projections, anticipated future cash flows, discount rates and the allocation of shared or corporate items. The market approach estimates fair value using comparable marketplace fair value data from within a comparable industry grouping. The Company weighted both the income and market approach equally to estimate the concluded fair value of each reporting unit.

The determination of fair value and the allocation of that value to individual assets and liabilities requires the Company to make significant estimates and assumptions. These estimates and assumptions primarily include, but are not limited to: the selection of appropriate peer group companies; control premiums appropriate for acquisitions in the industries in which the Company competes; the discount rate; terminal growth rates; and forecasts of revenue, operating income, depreciation and amortization, restructuring charges and capital expenditures. As part of its impairment test for these reporting units, the Company engaged a third-party valuation firm to assist in the Company's determination of certain assumptions used to estimate fair values.

As a result of the 2018 annual impairment tests for Book and Office Products, the Company did not recognize any goodwill impairment charges as the estimated fair values of the reporting units exceeded their respective carrying values.

Goodwill Impairment Assumptions

Although the Company believes its estimates of fair value are reasonable, actual financial results could differ from those estimates due to the inherent uncertainty involved in making such estimates. Changes in assumptions concerning future financial results or other underlying assumptions could have a significant impact on either the fair value of the reporting units, the amount of the goodwill impairment charge, or both. Future declines in the overall market value of the Company's equity and debt securities may also result in a conclusion that the fair value of one or more reporting units has declined below its carrying value.

One measure of the sensitivity of the amount of goodwill impairment charges to key assumptions is the amount by which each reporting unit "passed" (fair value exceeds the carrying value) or "failed" (the carrying value exceeds fair value) the goodwill impairment test. Book and Office Products passed with fair values that exceeded their carrying values by 15.9% and 13.6%, respectively.

Generally, changes in estimates of expected future cash flows would have a similar effect on the estimated fair value of the reporting unit. The e stimated discount rate for the Book and Office Products reporting units was 11.0% and 10.5%, respectively, as of October 31, 2018. A 1.0% increase in estimated discount rates would not have resulted in book or Office Products failing the goodwill impairment test. The Company believes that its estimates of future cash flows and discount rates are reasonable, but future changes in the underlying assumptions could differ due to the inherent uncertainty in making such estimates. Additionally, further price deterioration or lower volume co uld have a significant impact on the fair values of the reporting units.

Other Long-Lived Assets

The Company evaluates the recoverability of other long-lived assets, including property, plant and equipment and certain identifiable intangible assets, whenever events or changes in circumstances indicate that the carrying value of an asset or asset group may not be recoverable. The Company performs impairment tests of indefinite-lived intangible assets on an annual basis or more frequently in certain circumstances.

Factors that could trigger an impairment review include significant underperformance relative to historical or projected future operating results, significant changes in the manner of use of the assets or the strategy for the overall business, a significant decrease in the market value of the assets or significant negative industry or economic trends. When the Company determines that the carrying value of long-lived assets may not be recoverable based upon the existence of one or more of the indicators, the assets are assessed for impairment based on the estimated future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. If the carrying value of an asset exceeds its estimated future undiscounted cash flows, an impairment loss is recorded for the excess of the asset's carrying value over its fair value.

The Company recognized impairment charges of $3 million during the year ended December 31, 2018 related to machinery and equipment.

Pension

The Company is the sole sponsor of certain defined benefit plans, which have been reflected in the consolidated balance sheets at December 31, 2018 and 2017. The Company records annual income and expense amounts relating to its pension plans based on calculations that include various actuarial assumptions, including discount rates, mortality, assumed rates of return, compensation increases, and turnover rates. The Company reviews its actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends when it is deemed appropriate to do so. The effects of modifications on the value of plan obligations and assets is recognized immediately within other comprehensive income (loss) and amortized into investment and other (income)-net over future periods. The Company believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience, market conditions and input from its actuaries and investment advisors.

Prior to the separation, certain employees of the Company participated in certain pension and postretirement health care plans sponsored by RRD. In the company's combined financial statements, these plans were accounted for as multiemployer benefit plans and no net liabilities were reflected in the Company's combined balance sheets as there were no unfunded contributions due at the end of any reporting period. The Company's combined statements of operations included expense allocations for these benefits. These expenses were funded through intercompany transactions with RRD and were reflected within net parent company investment in LSC Communications. At the separation date, the Company assumed and recorded certain pension obligations and plan assets in single employer plans for the Company's employees and certain former employees and retirees of RRD. Additionally, the U.K. pension plan was transferred from the Company to RRD.

The weighted-average discount rates used to determine the net benefit obligations for all pension benefit plans were 4.4% and 3.7% at December 31, 2018 and 2017, respectively.

A one-percentage point change in the dis count rates at December 31, 2018 would have the following effects on the accumulated benefit obligation and projected benefit obligation for all pension benefit plans :

	1% Increase			1% Decrease		
	(in millions)					
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Accumulated benefit obligation	$ (243)	$ (8)	$ (251)	$ 294	$ 9	$ 303
Projected benefit obligation	(243)	(8)	(251)	294	10	304

The Company's U.S. pension plans are frozen and the Company has previously transitioned to a risk management approach for its U.S. pension plan assets. The overall investment objective of this approach is to further reduce the risk of significant decreases in the plan's funded status by allocating a larger portion of the plan's assets to investments expected to hedge the impact of interest rate risks on the plan's obligation. Over time, the target asset allocation percentage for the pension plan is expected to decrease for equity and other "return seeking" investments and increase for fixed income and other "hedging" investments. The assumed long-term rate of return for plan assets, which is determined annually, is likely to decrease as the asset allocation shifts over time. The impact of a change in discount rates on the accumulated benefit obligation and projected benefit obligation would be partially offset by the corresponding impact on the fair value of pension assets of hedging investments. The impact of a change in discount rates would increase or decrease the fair value of pension assets of return-seeking investments.

The expected long-term rate of return for plan assets is based upon many factors including expected asset allocations, historical asset returns, current and expected future market conditions and risk. In addition, the Company considered the impact of the current interest rate environment on the expected long-term rate of return for certain asset classes, particularly fixed income. The target asset allocation percentage for the U.S. Qualified Plan was approximately 40.0% for return seeking investments and approximately 60.0% for hedging investments. The expected long-term rate of return on plan assets assumption used to calculate net pension plan expense in 2018 was 6.75% for the Company's U.S. Qualified pension plan. The expected long-term rate of return on plan assets assumption that will be used to calculate net pension plan expense in 2019 is 6.50% for the Company's U.S. Qualified pension plan.

A 0.25% change in the expected long-term rate of return on plan assets at December 31, 2018 would have the following effects on 2018 and 2019 pension plan (income)/expense in the Company's pension benefit plans:

	0.25% Increase	0.25% Decrease
	in millions	
2018	$ (6)	$ 6
2019	(6)	6

The amounts for the year ended December 31, 2019 in the table above exclude the impact of the partial settlement described in the *2019 Outlook* section above.

Accounting for Income Taxes

The Company has recorded deferred tax assets related to future deductible items, including domestic and foreign tax loss and credit carryforwards. The Company evaluates these deferred tax assets by tax jurisdiction. The utilization of these tax assets is limited by the amount of taxable income expected to be generated within the allowable carryforward period and other factors. Accordingly, management has provided a valuation allowance to reduce certain of these deferred tax assets when management has concluded that, based on the weight of available evidence, it is more likely than not that the deferred tax assets will not be fully realized. If actual results differ from these estimates, or the estimates are adjusted in future periods, adjustments to the valuation allowance might need to be recorded. As of December 31, 2018 and 2017, valuation allowances of $11 million and $115 million, respectively, were recorded in the Company's consolidated balance sheets.

Significant judgment is required in determining the provision for income taxes and related accruals, deferred tax assets and liabilities and any valuation allowance recorded against deferred tax assets. In the ordinary course of business, there are transactions and calculations where the ultimate tax outcome is uncertain. Additionally, the Company's tax returns are subject to audit by various U.S. and foreign tax authorities. The Company recognizes a tax position in its financial statements when it is more likely than not (a likelihood of more than fifty percent) that the position would be sustained upon examination by tax authorities. This recognized tax position is then measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Although management believes that its estimates are reasonable, the final outcome of uncertain tax positions may be materially different from that which is reflected in the Company's consolidated financial statements. The Company classifies interest expense and any related penalties related to income tax uncertainties as a component of income tax expense.

Prior to the separation in the Company's combined financial statements, income tax expense and deferred tax balances were calculated on a separate return basis, although with respect to certain entities, the Company's operations have historically been included in the tax returns filed by the respective RRD entities of which the Company's business was previously a part. For periods after the separation, the Company has and will continue to file tax returns on its own behalf. The provision for income tax and income tax balances after the separation represent the Company's tax liabilities as an independent company.

Refer to Note 15, *Income Taxes* , for discussion on the impact of the Tax Act.

Commitments and Contingencies

The Company is subject to lawsuits, investigations and other claims related to environmental, employment, commercial and other matters, as well as preference claims related to amounts received from customers and others prior to their seeking bankruptcy protection. Periodically, the Company reviews the status of each significant matter and assesses the potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the related liability is estimable, the Company accrues a liability for the estimated loss. Because of uncertainties related to these matters, accruals are based on the best information available at the time. As additional information becomes available, the Company reassesses the related potential liability and may revise its estimates.

With respect to claims made under the Company's third-party insurance for workers' compensation, automobile and general liability, the Company is responsible for the payment of claims below and above insured limits, and consulting actuaries are utilized to assist the Company in estimating the obligation associated with any such incurred losses, which are recorded in accrued and other non-current liabilities. Historical loss development factors for both the Company and the industry are utilized to project the future development of such incurred losses, and these amounts are adjusted based upon actual claims experience and settlements. If actual experience of claims development is significantly different from these estimates, an adjustment in future periods may be required. Expected recoveries of such losses are recorded in other current and other non-current assets.

Restructuring

The Company records restructuring charges when liabilities are incurred as part of a plan approved by management with the appropriate level of authority for the elimination of duplicative functions, the closure of facilities, or the exit of a line of business, generally in order to reduce the Company's overall cost structure. Total restructuring charges were $28 million and $37 million for the years ended December 31, 2018 and 2017, respectively.

The restructuring liabilities may change in future periods based on several factors that could differ from original estimates and assumptions. These include, but are not limited to: contract settlements on terms different than originally expected; ability to sublease properties based on market conditions at rates or on timelines different than originally estimated; or changes to original plans as a result of acquisitions or other factors. Such changes may result in reversals of or additions to restructuring charges that could affect amounts reported in the consolidated statements of operations of future periods.

Accounts Receivable

The Company maintains an allowance for doubtful accounts receivable, which is reviewed for estimated losses resulting from the inability of its customers to make required payments for products and services. Specific customer provisions are made when a review of significant outstanding amounts, utilizing information about customer creditworthiness and current economic trends, indicates that collection is doubtful. In addition, provisions are made at differing rates, based upon the age of the receivable and the Company's collection experience. The allowance for doubtful accounts receivable was $14 million and $11 million at December 31, 2018 and 2017, respectively. The Company's estimates of the recoverability of accounts receivable could change, and additional changes to the allowance could be necessary in the future if any major customer's creditworthiness deteriorates or actual defaults are higher than the Company's historical experience.

Off-Balance Sheet Arrangements

Other than non-cancelable operating lease commitments, the Company does not have off-balance sheet arrangements, financings or special purpose entities.

FINANCIAL REVIEW

In the financial review that follows, the Company discusses its consolidated and combined statements of operations, balance sheets, cash flows and certain other information. This discussion should be read in conjunction with the Company's consolidated and combined financial statements and the related notes that begin on page F-1.

Results of Operations for the Year Ended December 31, 2018 as Compared to the Year Ended December 31, 2017

The following table shows the results of operations for the year ended December 31, 2018 and 2017, which reflects the results of acquired businesses from the relevant acquisition dates:

	2018	2017	$ Change	% Change
	(in millions, except percentages)			
Net sales	$ 3,826	$ 3,603	$ 223	6.2%
Cost of sales	3,283	3,026	257	8.5%
Cost of sales as a % of net sales	*85.8%*	*84.0%*		
Selling, general and administrative expenses (exclusive of depreciation and amortization)	328	307	21	6.8%
Selling, general and administrative expenses as a % of net sales	*8.6%*	*8.5%*		
Restructuring, impairment and other charges-net	35	129	(94)	(72.9%)
Depreciation and amortization	138	160	(22)	(13.8%)
Income (loss) from operations	$ 42	$ (19)	$ 61	(321.1%)

Consolidated Results

Net sales for the year ended December 31, 2018 were $3,826 million, an increase of $223 million or 6.2% compared to the year ended December 31, 2017. Net sales were impacted by:

- Increases due to the acquisitions of Print Logistics in 2018, and Clark Group, CREEL, Publishers Press, LLC, and Fairrington in 2017 (together with Print Logistics the "MCL acquired companies"), and Quality Park and NECI in 2017 (the "Office Products acquired companies"), higher sales in outsourced print procurement and management services, and a $10 million increase in pass-through paper sales;
- Partially offset by the dispositions of the Company's European printing business and retail offset printing facilities, and lower volume; and
- A $10 million, or 0.3%, increase due to changes in foreign exchange rates, primarily in Polish zloty.

On a pro forma basis, the Company's net sales for the year ended December 31, 2018 decreased by approximately $203 million or 4.9% compared to the year ended December 31, 2017 (refer to Note 3, *Business Combinations and Disposition* , to the consolidated and combined financial statements).

Total cost of sales increased $257 million, or 8.5%, for the year ended December 31, 2018 compared to the year ended December 31, 2017, including a $10 million, or 0.3%, increase due to changes in foreign exchange rates, primarily due to costs incurred by the acquired companies, increased costs of raw materials, increased labor costs and the negative impact on productivity related to workforce turnover, and mix of volume. The increase was partially offset by a gain related to the sale of assets and the disposition of the European printing business and retail offset printing facilities.

Selling, general and administrative expenses increased $21 million, or 6.8%, to $328 million for the year ended December 31, 2018, primarily driven by expenses incurred by the acquired companies and higher acquisition and merger-related expenses, partially offset by lower separation-related expenses. As a percentage of net sales, selling, general and administrative remained increased from 8.5% for the year ended December 31, 2017 to 8.6% for the year ended December 31, 2018.

For the year ended December 31, 2018, the Company recorded restructuring, impairment and other charges of $35 million. The charges included:

- Employee-related charges of $14 million for an aggregate of 811 employees, of whom 282 were terminated as of or prior to December 31, 2018, primarily related to two facility closures in the Magazines, Catalogs and Logistics segment, one facility closure in the Office Products segment and the reorganization of certain business units and corporate functions.
- Other restructuring charges of $14 million primarily due to charges related to facility costs, a loss related to the Company's disposition of its retail offset printing facilities and pension withdrawal obligations related to facility closures;
- $3 million to recognize impairment charges primarily related to machinery and equipment associated with facility closings in the Magazines, Catalogs and Logistics segment; and
- $3 million to recognize the impairment of certain acquired indefinite-lived tradenames intangible assets in the Office Products segment.
- The charges above were partially offset by a reduction of $1 million of goodwill impairment charges as a result of a $1 million adjustment of previously recorded goodwill associated with the 2017 acquisitions.

For the year ended December 31, 2017, the Company recorded restructuring, impairment and other charges of $129 million. The charges included:

- $68 million to recognize the impairment of goodwill in the Magazines, Catalogs and Logistics segment and $5 million in the Other grouping. Given the historical valuations of the Company's former magazines, catalogs and retail inserts reporting unit that have resulted in goodwill impairment in prior years, combined with the change in the composition of the carrying value of the reporting unit due to the recent acquisitions, the Company determined it necessary to perform interim goodwill impairment reviews on this former reporting unit during the year ended December 31, 2017. Refer to Note 12, *Restructuring, Impairment and Other Charges* , for more information;
- $8 million to recognize the impairment of intangibles in the Book and Office Products segments;
- $7 million to recognize the impairment of machinery and equipment. The impairment was primarily recorded in the magazines and catalogs reporting unit, which is included in the Magazines, Catalogs and Logistics segment;
- Other restructuring charges of $24 million, primarily related to the exit from certain operations and facilities, as well as charges incurred as a result of a terminated supplier contract;
- $13 million for employee termination costs for an aggregate of 776 employees, substantially all of whom were terminated as of or prior to December 31, 2018, primarily related to three facility closures in the Book segment, one facility closure in the Magazines, Catalogs and Logistics segment and the reorganization of certain business units; and
- Other charges of $4 million for multi-employer pension plan withdrawal obligations unrelated to facility closures .

Depreciation and amortization decreased $22 million to $138 million for the year ended December 31, 2018 compared to the year ended December 31, 2017 due to decreased capital spending in recent years compared to historical levels, partially offset by depreciation and amortization incurred by the MCL and Office Products acquired companies.

	2018	2017	$ Change	% Change
	(in millions, except percentages)			
Interest expense-net	$ 80	$ 72	$ 8	11.1%
Investment and other (income)-net	(48)	(47)	(1)	2.1%

The Company recorded net interest expense of $80 million and $72 million for the years ended December 31, 2018 and 2017, respectively. The increase was primarily due to due to increased borrowings on the Company's $400 million senior secured revolving credit facility (the "Revolving Credit Facility"). Refer to Note 12, *Debt* , to the consolidated and combined financial statements. Investment and other (income)-net primarily relates to the Company's pension benefit plans in both years.

	2018	2017	$ Change
	(in millions, except percentages)		
Net income (loss) before income taxes	$ 10	$ (44)	$ 54
Income tax expense	33	13	20
Effective income tax rate	319.4%	(30.5%)	

The effective income tax rate was 319.4% for the year ended December 31, 2018 and reflects a $25 million non-cash tax provision related to the disposition of the Company's European printing business.

The effective income tax rate for the year ended December 31, 2017 was (30.5%). In connection with our initial analysis of the impact of the Tax Act, the Company recorded a provisional net tax expense of $24 million in the year ended December 31, 2017. T his amount consists of a provisional expense of $16 million for the one-time transition tax, as a result of deemed repatriation of the Company's foreign earnings, and a net provisional expense of $8 million for the remeasurement of deferred taxes associate d with the reduced U.S. federal corporate tax rate from 35.0% to 21.0%. The 2017 effective income tax rate was also impacted by the non-deductible goodwill impairment charges.

Refer to Note 15, *Income Taxes* , for information regarding the Tax Act.

Information by Segment

The following tables summarize net sales, income (loss) from operations and certain items impacting comparability within each of the reportable segments and Corporate. The descriptions of the reporting units generally reflect the primary products provided by each reporting unit.

Magazines, Catalogs and Logistics

	2018	2017	Change
	(in millions, except percentages)		
Net sales	$ 1,767	$ 1,583	$ 184
(Loss) from operations	(31)	(73)	42
Operating margin	(1.8%)	(4.6%)	280 bps
Restructuring, impairment and other charges-net	20	86	(66)
Purchase accounting inventory adjustments	—	1	(1)

Net sales for the Magazines, Catalogs and Logistics segment for the year ended December 31, 2018 were $1,767 million, an increase of $184 million, or 11.6%, compared to 2017. Net sales increased primarily due to the MCL acquired companies, higher sales in co-mail and premedia and a $13 million increase in pass-through paper sales, partially offset by the disposition of the Company's retail offset printing facilities, lower volume in catalogs and magazines, and price pressures.

The decrease in Magazines, Catalogs and Logistics segment loss from operations and change in operating margins was primarily due to lower restructuring, impairment and other charges, and a gain related to the sale of assets, partially offset by cost increases as a result of the labor market conditions and price pressures.

Book

	2018	2017	Change
	(in millions, except percentages)		
Net sales	$ 1,055	$ 1,022	$ 33
Income from operations	58	62	(4)
Operating margin	5.5%	6.1%	(60 bps)
Restructuring, impairment and other charges-net	6	15	(9)

Net sales for the Book segment for the year ended December 31, 2018 were $1,055 million, an increase of $33 million, or 3.2%, compared to 2017, largely as a result of higher volume in educational books, higher volume in digital products and increased fulfillment services, and a $10 million increase in pass-through paper sales, partially offset by price pressures.

Book segment income from operations and operating margins decreased for the year ended December 31, 2018 compared to 2017 due to cost increases as a result of the labor market conditions, price declines, mix of volume, and a gain on the sales of assets recorded in 2017.

Office Products

	2018	2017	Change
	(in millions, except percentages)		
Net sales	$ 562	$ 495	$ 67
Income from operations	40	42	(2)
Operating margin	7.1%	8.5%	(140 bps)
Restructuring, impairment and other charges-net	6	4	2
Purchase accounting adjustments	1	1	—

Net sales for the Office Products segment for the year ended December 31, 2018 were $562 million, an increase of $67 million, or 13.5%, compared to 2017, largely as a result of the Office Products acquired companies and pass-through price increases, partially offset by lower volume in filing and notetaking products.

The decrease in income from operations and operating margin was primarily due to increased costs of raw materials, primarily in paper, and in freight, as well as mix of volume, partially offset by synergies realized from the integration of the Office Products acquired companies.

Other

	2018	2017	Change
	(in millions, except percentages)		
Net sales	$ 444	$ 503	$ (59)
Income from operations	26	28	(2)
Operating margin	5.9%	5.6%	30 bps
Restructuring, impairment and other charges-net	1	7	(6)

Net sales for the Other grouping for the year ended December 31, 2018 were $444 million, a decrease of $59 million, or 11.7%, compared to 2017, largely as a result of the Company's disposition of its European printing business on September 28, 2018, lower directories volume and a $13 million decrease in pass-through paper sales, partially offset by higher sales in outsourced print procurement and management services and a $10 million increase due to changes in foreign exchange rates primarily for Polish Zloty.

The decrease in income from operations was primarily due to price pressures and a gain on the sale of assets recorded in 2017, partially offset by productivity and cost control initiatives, which helped to improve the operating margin compared to 2017.

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Corporate

The following table summarizes unallocated operating expenses and certain items impacting comparability within the activities presented as Corporate:

	2018	2017	Change
	(in millions, except percentages)		
Total operating expenses	$ 51	$ 78	$ (27)
Significant components of total operating expenses:			
Restructuring, impairment and other charges-net	2	17	(15)
Share-based compensation expenses	12	13	(1)
Acquisition, merger and disposition-related expenses	10	5	5
LIFO (benefit)	(5)	(1)	(4)
Separation-related expenses	—	4	(4)

Corporate operating expenses for the year ended December 31, 2018 were $51 million, compared to $78 million during the year ended December 31, 2017. The most significant charges are shown above and were partially offset by reductions in other corporate expenses.

Results of Operations for the Year Ended December 31, 2017 as Compared to the Year Ended December 31, 2016

The following table shows the results of operations for the year ended December 31, 2017 and 2016, which reflects the results of acquired businesses from the relevant acquisition dates:

	2017	2016	$ Change	% Change
	(in millions, except percentages)			
Net sales	$ 3,603	$ 3,654	$ (51)	(1.4%)
Cost of sales	3,026	3,031	(5)	(0.2%)
Cost of sales as a % of net sales	*84.0%*	*83.0%*		
Selling, general and administrative expenses (exclusive of depreciation and amortization)	307	304	3	1.0%
Selling, general and administrative expenses as a % of net sales	*8.5%*	*8.3%*		
Restructuring, impairment and other charges-net	129	18	111	616.7%
Depreciation and amortization	160	171	(11)	(6.4%)
(Loss)income from operations	$ (19)	$ 130	$ (149)	(114.6%)

Consolidated and Combined Results

Net sales for the year ended December 31, 2017 were $3,603 million, a decrease of $51 million, or 1.4%, compared to the year ended December 31, 2016. Net sales were impacted by:

- Decreases resulting from lower volume, pricing pressures and a $28 million decrease in pass-through paper sales;
- Increases due to the acquisitions of Clark Group, CREEL, Publishers Press, LLC, Fairrington, and HudsonYards in 2017 (the "MCL acquisitions") and Continuum in 2016, and the acquisitions of Quality Park and NECI in 2017 (together with the MCL acquisitions and Continuum the "acquired companies"); and
- A $10 million, or 0.3%, increase due to changes in foreign exchange rates, primarily in Polish zloty.

On a pro forma basis, the Company's net sales for the year ended December 31, 2017 decreased by approximately $294 million, or 6.9%, compared to the year ended December 31, 2016.

Total cost of sales decreased $5 million, or 0.2%, for the year ended December 31, 2017 compared to the year ended December 31, 2016, including a $10 million, or 0.3%, increase due to changes in foreign exchange rates. Cost of sales also decreased due to lower volume, a decline in paper pass-through sales and gains from the sales of assets. This was partially offset by cost of sales incurred by the acquired companies and higher purchase accounting inventory adjustments.

Selling, general and administrative expenses increased $3 million, or 1.0%, to $307 million for the year ended December 31, 2017, primarily driven by i ncreases in costs to operate as an independent public company due to the separation, expenses incurred by the acquired companies and higher acquisition-related expenses of $5 million. The increase in selling, general and administrative expenses was partially offset by lower selling expense.

As a percentage of net sales, selling, general and administrative expenses increased from 8.3% for the year ended December 31, 2016 to 8.5% for the year ended December 31, 2017 primarily due to lower sales and increases in costs to operate as an independent public company due to the separation.

For the year ended December 31, 2017, the Company recorded restructuring, impairment and other charges of $129 million. The charges included:

- $68 million to recognize the impairment of goodwill in the Magazines, Catalogs and Logistics segment and $5 million in the Other grouping. Given the historical valuations of the Company's former magazines, catalogs and retail inserts reporting unit that have resulted in goodwill impairment in prior years, combined with the change in the composition of the carrying value of the reporting unit due to the recent acquisitions, the Company determined it necessary to perform interim goodwill impairment reviews on this former reporting unit during the year ended December 31, 2017. Refer to Note 9, *Restructuring, Impairment and Other Charges* , for more information;
- $8 million to recognize the impairment of intangibles in the Book and Office Products segments;

- $7 million to recognize the impairment of machinery and equipm ent. The impairment was primarily recorded in the magazines and catalogs reporting unit, which is included in the Magazines, Catalogs and Logistics segment;
- Other restructuring charges of $24 million, primarily related to the exit from certain operations and facilities, as well as charges incurred as a result of a terminated supplier contract;
- $13 million for employee termination costs for an aggregate of 776 employees, of whom 459 were terminated as of or prior to December 31, 2017, primarily related to three facility closures in the Book segment, one facility closure in the Magazines, Catalogs and Logistics segment and the reorganization of certain business units; and
- Other charges of $4 million for multi-employer pension plan withdrawal obligations unrelated to facility closures .

For the year ended December 31, 2016, the Company recorded restructuring, impairment and other charges of $18 million. The charges included:

- Net restructuring charges of $8 million for employee termination costs for an aggregate of 222 employees, substantially all of whom were terminated as of or prior to December 31, 2017, primarily related to one facility closure in the Other grouping, the expected closure of another facility in the first quarter of 2017 in the Magazines, Catalogs and Logistics segment and the reorganization of certain operations;
- Lease termination and other restructuring charges of $7 million; and
- Other charges of $3 million for multi-employer pension plan withdrawal obligations unrelated to facility closures.

Depreciation and amortization decreased $11 million to $160 million for the year ended December 31, 2017 compared to the year ended December 31, 2016 due to decreased capital spending in recent years compared to historical levels, partially offset by acquisitions.

(Loss) income from operations for the year ended December 31, 2017 decreased by $149 million, or 114.6%, to a loss of $19 million as compared to the year ended December 31, 2016. The decrease was due to lower volume in the Book and Office Products segments, higher restructuring, impairment and other charges, price pressures, and higher acquisition expenses, partially offset by gains from the sales of assets.

	2017	**2016**	**$ Change**	**% Change**
	(in millions, except percentages)			
Interest expense-net	$ 72	$ 18	$ 54	300.0%
Investment and other (income)-net	(47)	(45)	(2)	4.4%

The Company recorded net interest expense of $72 million and $18 million for the years ended December 31, 2017 and 2016, respectively. The increase was primarily due to debt incurred in relation to the separation. Refer to Note 12, *Debt* , to the consolidated and combined financial statements. Investment and other (income)-net primarily relates to the Company's pension benefit plans in both years.

	2017	**2016**	**$ Change**	**% Change**
	(in millions, except percentages)			
(Loss) income before income taxes	$ (44)	$ 157	$ (201)	(128.0%)
Income tax expense	13	51	(38)	(74.5%)
Effective income tax rate	(30.5%)	32.5%		

The effective income tax rate for the year ended December 31, 2017 was (30.5%) compared to 32.5% for the year ended December 31, 2016. In connection with our initial analysis of the impact of the Tax Act, the Company recorded a provisional net tax expense of $24 million in the year ended December 31, 2017. This amount consists of a provisional expense of $16 million for the one-time transition tax, as a result of deemed repatriation of the Company's foreign earnings, and a net provisional expense of $8 million for the remeasurement of deferred taxes associated with the reduced U.S. federal corporate tax rate from 35.0% to 21.0%. The 2017 effective income tax rate was also impacted by the non-deductible goodwill impairment charges. Refer to Note 15, *Income Taxes* , for information regarding the Tax Act.

Information by Segment

The following tables summarize net sales, income (loss) from operations and certain items impacting comparability within each of the reportable segments and Corporate. The descriptions of the reporting unit generally reflect the primary products provided by each reporting unit.

Magazines, Catalogs and Logistics

	Years Ended December 31,	
	2017	2016
	(in millions, except percentages)	
Net sales	$ 1,583	$ 1,526
(Loss) income from operations	(73)	28
Operating margin	(4.6%)	1.8%
Restructuring, impairment and other charges-net	86	4
Purchase accounting inventory adjustments	1	—

Net sales for the Magazines, Catalogs and Logistics segment for the year ended December 31, 2017 were $1,583 million, an increase of $57 million, or 3.7%, compared to 2016 primarily as a result of higher volume due to the MCL acquisitions and a $3 million increase in pass-through paper sales, partially offset by price pressures.

Magazines, Catalogs and Logistics segment income from operations decreased by $101 million for the year ended December 31, 2017 primarily due to higher restructuring, impairment and other charges of $82 million, the majority of which related to goodwill impairment recorded in the segment. Refer to Note 9, *Restructuring, Impairment and Other Charges* , for more information. Income from operations also decreased due to price declines. Operating margins decreased from 1.8% for the year ended December 31, 2016 to (4.6%) for the year ended December 31, 2017 primarily due to higher restructuring, impairment and other charges and price declines.

Book

	Years Ended December 31,	
	2017	2016
	(in millions, except percentages)	
Net sales	$ 1,022	$ 1,097
Income from operations	62	86
Operating margin	6.1%	7.8%
Restructuring, impairment and other charges-net	15	6

Net sales for the Book segment for the year ended December 31, 2017 were $1,022 million, a decrease of $75 million, or 6.8%, compared to 2016 primarily due to lower volume within the educational and religious markets and coloring products, a $21 million decrease in pass-through paper sales, and price pressures, partially offset by higher revenues from digital and supply chain management and fulfillment services.

Book segment income from operations and operating margins decreased for the year ended December 31, 2017 compared to 2016 due to lower volume, higher restructuring, impairment and other charges and price declines, partially offset by gains from the sale of assets.

Office Products

	Years Ended December 31,	
	2017	2016
	(in millions, except percentages)	
Net sales	$ 495	$ 527
Income from operations	42	54
Operating margin	8.5%	10.2%
Restructuring, impairment and other charges-net	4	—
Purchase accounting inventory adjustments	1	—

Net sales for the Office Products segment for the year ended December 31, 2017 were $495 million, a decrease of $32 million, or 6.1%, compared to 2016, due to lower volume, primarily in note-taking products, filing products and binder products, and price pressures. The decreases were partially offset by the acquisitions of Quality Park and NECI in the fourth and third quarters of 2017, respectively.

Office Products segment income from operations decreased $12 million for the year ended December 31, 2017, mainly due to lower volume and higher restructuring, impairment and other charges, partially offset by cost control initiatives. Operating margins decreased from 10.2% for the year ended December 31, 2016 to 8.5% for the year ended December 31, 2017 due to price pressures and higher restructuring, impairment and other charges, partially offset by cost control initiatives.

Other

	Years Ended December 31,	
	2017	2016
	(in millions, except percentages)	
Net sales	$ 503	$ 504
Income from operations	28	27
Operating margin	5.6%	5.4%
Restructuring, impairment and other charges-net	7	5

Net sales for the Other grouping for the year ended were $503 million, a decrease of $1 million, or 0.2%, compared to 2016 primarily due to lower Europe and directories volume, including the impact of certain customer contracts previously managed by European operations that were assigned to RRD entities as of the separation, a $10 million decrease in pass-through paper sales, and price pressures, partially offset by higher volume due to the acquisition of Continuum in the fourth quarter of 2016 and a $10 million increase due to changes in foreign exchange rates, primarily in Polish zloty.

Income from operations and operating margin for the Other grouping increased for the year ended December 31, 2017 compared to 2016 primarily due to the gains from the sale of assets, partially offset by declining prices.

Corporate

The following table summarizes unallocated operating expenses and certain items impacting comparability within the activities presented as Corporate:

	Years Ended December 31,	
	2017	2016
	(in millions, except percentages)	
Total operating expenses	$ 78	$ 65
Significant components of total operating expenses:		
Restructuring, impairment and other charges-net	17	3
Separation-related expenses	4	5
Share-based compensation expenses	13	8
Acquisition-related expenses	5	—

Corporate operating expenses for the year ended December 31, 2017 were $78 million, compared to $65 million during the year ended December 31, 2016. The most significant charges are shown above and were partially offset by reductions in other corporate expenses. Additionally, the change was also driven by higher costs incurred during the year ended December 31, 2017 as a result of costs to operate as an independent public company.

Prior to the separation from RRD, many of the Corporate operating expenses were based on allocations from RRD, however, the Company has incurred such costs directly after the separation.

Non-GAAP Measures

The Company believes that certain non-GAAP measures, such as Non-GAAP adjusted EBITDA, provide useful information about the Co mpany's operating results and enhance the overall ability to assess the Company's financial performance. The Company uses these measures, together with other measures of performance under GAAP, to compare the relative performance of operations in planning, budgeting and reviewing the performance of its business. Non-GAAP adjusted EBITDA allows investors to make a more meaningful comparison between the Company's core business operating results over different periods of time. The Company believes that Non-GAAP adjusted EBITDA, when viewed with the Company's results under GAAP and the accompanying reconciliations, provides useful information about the Company's business without regard to potential distortions. By eliminating potential differences in results of operations between periods caused by factors such as depreciation and amortization methods and restructuring, impairment and other charges, the Company believes that Non-GAAP adjusted EBITDA can provide a useful additional basis for comparing the current performance of the underlying operations being evaluated.

Non-GAAP adjusted EBITDA is not presented in accordance with GAAP and has important limitations as an analytical tool. Readers should not consider these measures in isolation or as a substitute for analysis of our results as reported under GAAP. In addition, these measures are defined differently by different companies in our industry and, accordingly, such measures may not be comparable to similarly-titled measures of other companies.

Non-GAAP adjusted EBITDA excludes restructuring, impairment and other charges-net, separation-related expenses, purchase accounting adjustments, acquisition-related expenses, loss on debt extinguishment, and a pension settlement charge. A reconciliation of GAAP net income to non-GAAP adjusted EBITDA for the years ended December 31, 2018, 2017 and 2016 is presented in the following table:

	2018	2017	2016
Net (loss) income	$ (23)	$ (57)	$ 106
Restructuring, impairment and other charges-net	35	129	18
Acquisition, merger and disposition-related expenses	10	5	—
Purchase accounting adjustments	3	(1)	—
Separation-related expenses	—	4	5
Loss on debt extinguishment	—	3	—
Pension settlement charge	—	—	1
Depreciation and amortization	138	160	171
Interest expense-net	80	72	18
Income tax expense	33	13	51
Non-GAAP adjusted EBITDA	$ 276	$ 328	$ 370

Years Ended December 31, 2018, 2017 and 2016

- Refer to *Results of Operations* for information on restructuring, impairment and other charges for the years ended December 31, 2018, 2017 and 2016.
- Acquisition, merger and disposition-related expenses: The year ended December 31, 2018 included charges of $10 million related to legal, accounting and other expenses associated with completed and contemplated acquisitions and costs associated with the merger and the disposition of the Company's European printing business. The year ended December 31, 2017 included charges of $5 million related to legal, accounting and other expenses associated with completed and contemplated acquisitions.

- Purchase accounting adjustments: The year ende d December 31, 2018 included charges of $ 3 million as a result of purchase accounting inventory step-up adjustments and changes to purchase price allocations related to prior acquisitions. The year ended December 31, 2017 included net (benefit) charges of $(1) million as a result of purchase accounting inventory adjustments and a gain on acquisition.
- Separation-related expenses: The years ended December 31, 2017 and 2016 included charges of $4 million and $5 million, respectively, for one-time transaction costs associated with becoming a standalone company.
- Loss on debt extinguishment: The year ended December 31, 2017 included a loss of $3 million related to a partial debt extinguishment. Refer to Note 12, *Debt* , for more information.
- Pension settlement charge: The year ended December 31, 2016 included a pension settlement charge of $1 million related to lump-sum pension settlement payments for a pension plan from a company acquired in 2014.
- Income tax expense: The year ended December 31, 2018 included a $25 million non-cash provision recorded primarily for the write-off of a deferred tax asset associated with the disposition of the Company's European printing business.

LIQUIDITY AND CAPITAL RESOURCES

The Company believes it has sufficient liquidity to support its ongoing operations and to invest in future growth to create value for its stockholders. Operating cash flows and the Revolving Credit Facility are the Company’s primary sources of liquidity and are expected to be used for, among other things, payments of interest and principal on the Company’s debt obligations, distributions to stockholders that may be approved by the Board of Directors and in accordance with the Merger Agreement, capital expenditures necessary to support productivity improvement and growth, and completion of restructuring programs.

The following sections describe the Company’s cash flows for the years ended December 31, 2018, 2017 and 2016.

	2018	2017	2016
Net cash provided by operating activities	$ 162	$ 205	$ 231
Net cash (used in) investing activities	(55)	(278)	(49)
Net cash (used in) provided by financing activities	(116)	6	(187)

Cash flows from Operating Activities

Operating cash inflows are largely attributable to sales of the Company’s products. Operating cash outflows are largely attributable to recurring expenditures for raw materials, labor, rent, interest, taxes and other operating activities.

2018 compared to 2017

Net cash provided by operating activities was $162 million for the year ended December 31, 2018 compared to $205 million for the same period in 2017. The decrease in net cash provided by operating activities reflected the timing of supplier payments and an increase in inventory costs as a result of higher paper prices, partially offset by improved cash collections.

2017 compared to 2016

Net cash provided by operating activities was $205 million for the year ended December 31, 2017 compared to $231 million for the same period in 2016. The decrease in net cash provided by operating activities was driven by an increase in interest payments, reflecting a full year on interest payments primarily related to the issuance of long-term debt as of September 30, 2016, partially offset by the timing of customer and supplier payments.

Beginning on October 1, 2016, transactions with RRD and Donnelley Financial are considered third-party and are settled in cash, whereas prior to that date transactions were net settled among the three companies.

Cash flows from Investing Activities

2018 compared to 2017

Net cash used in investing activities for the year ended December 31, 2018 was $55 million compared to $278 million for the same period in 2017. Significant changes are as follows:

- Cash paid for acquisitions of businesses, net of cash acquired, was impacted by the acquisition of Print Logistics in 2018, several acquisitions in 2017 and purchase price adjustments resulting from finalization of working capital calculations in each period;
- Proceeds of $47 million for the year ended December 31, 2018 for the disposition of the Company's European printing business; and
- Net proceeds from the sales and purchase of investments and other assets of $9 million for the year ended December 31, 2018 compared to $18 million for the year ended December 31, 2017.

2017 compared to 2016

Net cash used in investing activities for the year ended December 31, 2017 was $278 million compared to $49 million for the same period in 2016. Significant changes are as follows:

- Cash paid for acquisitions of businesses, net of cash acquired, was $236 million during the year ended December 31, 2017, of which $234 million was for the 2017 acquisitions and $2 million was paid as part of a final working capital adjustment for the 2016 acquisition of Continuum. Cash paid for acquisition of business, net of cash acquired, was $8 million during the year ended December 31, 2016 for the acquisition of Continuum;
- Capital expenditures were $60 million during the year ended December 31, 2017, an increase of $12 million compared to the same period in 2016, primarily due to increased spend on machinery and equipment in the Magazines, Catalogs and Logistics segment and software expenditures in the Corporate segment; and
- Net proceeds from the sales and purchase of investments and other assets were $18 million during the year ended December 31, 2017, compared to $6 million during the year ended December 31, 2016.

Cash flows from Financing Activities

2018 compared to 2017

Net cash used in financing activities for the year ended December 31, 2018 was $116 million compared to cash provided by financing activities of $6 million for the same period in 2017. Significant changes are as follows:

- The Company paid down $50 million of long-term debt and current maturities during the year ended December 31, 2018, compared to $118 million during the year ended December 31, 2017
- The Company made net payments for credit facility borrowings of $9 million during the year ended December 31, 2018 compared to receiving proceeds of $75 million during the year ended December 31, 2017;
- The Company paid $20 million to repurchase common stock during the year ended December 31, 2018;
- There were $65 million of proceeds from issuance of long-term debt during the year ended December 31, 2017; and
- The Company received proceeds of $18 million for the issuance of common stock on March 28, 2017 in connection with the secondary offering of shares retained by RRD at the separation.

2017 compared to 2016

Net cash provided by financing activities for the year ended December 31, 2017 was $6 million compared to $187 million of cash used by financing activities for the same period in 2016.

- There were $65 million of proceeds and $1 million debt issuance costs during the year ended December 31, 2017, compared to $816 million and $20 million of proceeds and debt issuance costs, respectively, during the year ended December 31, 2016 as a result of issuance of long-term debt as of September 30, 2016;
- The Company paid $118 million of long-term debt and current maturities during the year ended December 31, 2017, compared to $17 million during the year ended December 31, 2016;
- There were $75 million of net proceeds under the Revolving Credit Facility during the year ended December 31, 2017;

- The Company received proceeds of $18 million for the issuance of common stock on March 28, 2017 in connection with the secondary offering of shares retained by RRD at the separation;
- The Company paid $34 million in dividends to stockholders during the year ended December 31, 2017, compared to $8 million during the year ended December 31, 2016;
- The Company received $3 million in net cash proceeds from RRD during the year ended December 31, 2017, compared to net cash payments of $13 million made to RRD during the year ended December 31, 2016. The proceeds and payments were primarily pursuant to the terms of the separation agreement with RRD;
- There were other financing activities of $2 million during the year ended December 31, 2017; and
- There were $945 million of net transfers to parent and affiliates during the year ended December 31, 2016.

Dividends

Cash dividends declared and paid to stockholders during the year ended December 31, 2018 totaled $35 million. On January 17, 2019, the Board of Directors declared a quarterly cash dividend of $0.26 per common share, payable on March 4, 2019 to stockholders of record on February 15, 2019.

The Credit Agreement generally allows annual dividend payments of up to $50 million in aggregate, though additional dividends may be allowed subject to certain conditions. The timing, declaration, amount and payment of any future dividends to the Company's stockholders falls within the discretion of the Company's Board of Directors. The decisions of the Company's Board of Directors regarding the payment of future dividends depends on many factors, including but not limited to the Company's financial condition, future prospects, earnings, capital requirements and debt service obligations, as well as legal requirements, regulatory constraints, industry practice and other factors that the Board of Directors may deem relevant. In addition, the terms of the agreements governing the Company's existing debt or debt that the Company may incur in the future may limit or prohibit the payment of dividends. There can be no assurance that the Company will continue to pay a dividend.

Contractual Cash Obligations and Other Commitments and Contingencies

The following table quantifies the Company's future contractual obligations as of December 31, 2018:

	Payments Due In						
	Total	**2019**	**2020**	**2021**	**2022**	**2023**	**Thereafter**
				(in millions)			
Debt (a)	$ 782	$ 110	$ 43	$ 43	$ 136	$ 450	$ —
Interest due on debt (b)	253	59	56	52	47	39	—
Multi-employer pension withdrawals obligations	112	9	9	8	8	8	70
Operating leases (c)	307	88	60	50	37	22	50
Deferred compensation	6	1	—	—	—	—	5
Pension plan contributions (d)	12	6	6	—	—	—	—
Incentive compensation	5	5	—	—	—	—	—
Outsourced services	28	21	3	2	2	—	—
Other (e)	43	43	—	—	—	—	—
Total as of December 31, 2018	$ 1,548	$ 342	$ 177	$ 155	$ 230	$ 519	$ 125

(a) Excludes unamortized debt issuance costs of $4 million and $6 million related to the Company's Term Loan Facility and 8.75% Senior Notes due October 15, 2023, respectively, and a discount of $5 million related to the Company's Term Loan Facility. These amounts do not represent contractual obligations with a fixed amount or maturity date.
(b) Includes scheduled interest payments for the 8.75% Senior Notes and estimates for the Term Loan Facility.
(c) Includes obligations to landlords.
(d) Includes the estimated pension plan contributions for 2019 and 2020 and does not include the obligations for subsequent periods as the Company is unable to reasonably estimate the ultimate amounts.
(e) Other primarily includes employee restructuring-related severance payments ($8 million) and purchases of property, plant and equipment ($35 million).

Liquidity

Cash and cash equivalents were $21 million and $34 million as of December 31, 2018 and 2017, respectively.

The Company's cash balances are held in several locations throughout the world, including amounts held outside of the United States. Cash and cash equivalents as of December 31, 2018 included $12 million in the U.S. and $9 million at international locations.

The Company maintains cash pooling structures that enable participating international locations to draw on the pools' cash resources to meet local liquidity needs. Foreign cash balances may be loaned from certain cash pools to U.S. operating entities on a temporary basis in order to reduce the Company's short-term borrowing costs or for other purposes. As of December 31, 2018, $17 million of international cash was loaned to U.S. operating entities.

Debt Issuances

On September 30, 2016, the Company issued $450 million of Senior Secured Notes (the "Senior Notes").

On September 30, 2016 the Company entered into a credit agreement (the "Credit Agreement") that provides for (i) a senior secured term loan B facility in an aggregate principal amount of $375 million (the "Term Loan Facility") and (ii) a senior secured revolving credit facility in an aggregate principal amount of $400 million (the "Revolving Credit Facility"). The debt issuance costs and original issue discount are being amortized over the life of the facilities using the effective interest method.

The Credit Agreement is subject to a number of covenants, including, but not limited to, a minimum Interest Coverage Ratio and a Consolidated Leverage Ratio, as defined in and calculated pursuant to the Credit Agreement, that, in part, restrict the Company's ability to incur additional indebtedness, create liens, engage in mergers and consolidations, make restricted payments and dispose of certain assets. The Credit Agreement generally allows annual dividend payments of up to $50 million in the aggregate, though additional dividends may be allowed subject to certain conditions. Each of these covenants is subject to important exceptions and qualifications.

Credit Agreement

On December 20, 2018, the Company amended the Credit Agreement to, among other things, defer certain changes of the minimum Interest Coverage Ratio and the maximum Consolidated Leverage Ratio. As a result, the maximum Consolidated Leverage Ratio will be reduced to 3.00 to 1.00 with respect to any fiscal quarter ending on or after March 31, 2020, as opposed to March 31, 2019, as originally contemplated in the Credit Agreement. The minimum Interest Coverage Ratio will be increased to 3.50 to 1.00 with respect to any test period ending on or after March 31, 2020, as opposed to March 31, 2019, as originally contemplated in the Credit Agreement. Other terms, including the outstanding principal, maturity date and other debt covenants remain the same.

On November 17, 2017, the Company amended the Credit Agreement to reduce the interest rate for the Term Loan Facility by 50 basis points and the LIBOR "floor" was also reduced by 25 basis points. Other terms, including the outstanding principal, maturity date and debt covenants were not amended.

Select terms of the Term Loan Facility before and after amendment include:

	Before Amendment	**After Amendment**
Interest rate (Company's option)	Base rate + 5.00%; or LIBOR + 6.00%	Base rate + 4.50%; or LIBOR + 5.50%
LIBOR floor	1.00%	0.75%
Amortization	$13 million, first eight quarters; $11 million quarterly thereafter (as of original effective date)	$13 million, first eight quarters; $11 million quarterly thereafter (as of original effective date)
Maturity	September 30, 2022	September 30, 2022

Under the terms of the Term Loan Facility, each of the syndicated lenders is deemed to have loaned a specific amount to the Company and has the right to repayment from the Company directly. Therefore, we concluded that the Term Loan Facility is a loan syndication under GAAP. As such, in order to determine whether the debt was modified or extinguished as a result of the amendment, we examined the amount of principal pre- and post-amendment by individual lender. As a result, we determined that $65 million of outstanding principal had been extinguished as of November 17, 2017, even though the total outstanding principal amongst all lenders pre- and post-amendment remained unchanged.

Consequently, the amendment resulted in a pre-tax loss on debt extinguishment of $3 million related to the unamortized discount and debt issuance costs attributable to the $65 million of outstanding principal that had been considered extinguished. There was no net impact as of November 17, 2017 to cash and cash equivalents, total outstanding principal remained unchanged, and no cash was exchanged between the lenders and the Company (other than customary administrative fees).

On Fe bruary 2, 2017, the Company paid in advance for the Term Loan Facility the full amount of required amortization payments, $50 million, for the year ended December 31, 2017.

Additional Debt Issuances Information

There were $64 million of borrowings under the Revolving Credit Facility as of December 31, 2018. Based on the Company's consolidated statements of operations for the year ended December 31, 2018 and existing debt, the Company would have had the ability to utilize $278 million of the $400 million Revolving Credit Facility and not have been in violation of the terms of the agreement. Availability under the Revolving Credit Facility was reduced by $64 million in borrowings.

The current availability under the Revolving Credit Facility and net availability as of December 31, 2018 is shown in the table below:

		December 31, 2018
		(in millions)
Availability		
Stated amount of the Revolving Credit Facility	$	400
Less: availability reduction from covenants		122
Amount available under the Revolving Credit Facility	$	278
Usage		
Borrowings under the Revolving Credit Facility	$	64
Impact on availability related to outstanding letters of credit		—
Total usage	$	64
Current availability at December 31, 2018	$	214
Cash		21
Net Available Liquidity	$	235

The Company was in compliance with its debt covenants as of December 31, 2018, and expects to remain in compliance based on management's estimates of operating and financial results for 2019 and the foreseeable future. However, declines in market and economic conditions or demand for certain of the Company's products could impact the Company's ability to remain in compliance with its debt covenants in future periods . As a result of the Company's amendment of its Credit Agreement during the fourth quarter of 2018, the maximum Consolidated Leverage Ratio steps down to 3.00 on March 31, 2020, one year later from the previous date of March 31, 2019 and the minimum Interest Coverage Ratio will be increased to 3.50 to 1.00 with respect to any test period ending on or after March 31, 2020, as opposed to March 31, 2019. As of December 31, 2018, the Company's leverage as defined in the Credit Agreement was 2.54, compared to a maximum permitted ratio under the Credit Agreement of 3.25. The full definition of the Consolidated Leverage Ratio and amended agreement are included in the Credit Agreement filed as an exhibit to this annual report on Form 10-K. As of December 31, 2018, the Company met all the conditions required to borrow under the Credit Agreement and management expects the Company to continue to meet the applicable borrowing conditions.

The failure of a financial institution supporting the Credit Agreement would reduce the size of the Company's committed facility unless a replacement institution were added. Currently, the Credit Agreement is supported by fifteen U.S. and international financial institutions.

As of December 31, 2018, the Company had $51 million in outstanding letters of credit issued under the Revolving Credit Facility, all of which reduced the availability thereunder. As of December 31, 2018, the Company also had $6 million in other uncommitted credit facilities, all of which were outside the U.S. (the "Other Facilities"). As of December 31, 2018, letters of credit and guarantees of $2 million were issued and reduced availability under the Other Facilities.

Other

The Merger Agreement permits the Company to continue paying a quarterly dividend up to $0.26 per share and restricts the Company from incurring additional indebtedness outside of the ordinary course of business.

On February 15, 2018, the Company's Board of Directors approved an initial share repurchase authorization o f up to $20 million of common stock under which the Company may buy back LSC Communications' shares at its discretion from February 15, 2018 through August 15, 2019. The $20 million repurchase was completed on May 31, 2018.

Management of Market Risk

The Company is exposed to interest rate risk on its variable debt and price risk on its fixed-rate debt. At December 31, 2018, the Company's variable-interest borrowings were $330 million, or approximately 42.2%, of the Company's total debt.

The Company assesses market risk based on changes in interest rates utilizing a sensitivity analysis that measures the potential loss in earnings, fair values and cash flows based on a hypothetical 10% change in interest rates. Using this sensitivity analysis, such changes would not have a material effect on interest income or expense and cash flows and would change the fair values of fixed-rate debt at December 31, 2018 by approximately $14 million.

The Company is exposed to the impact of foreign currency fluctuations in certain countries in which it operates. The exposure to foreign currency movements is limited in many countries because the operating revenues and expenses of its various subsidiaries and business units are substantially in the local currency of the country in which they operate. To the extent that borrowings, sales, purchases, revenues, expenses or other transactions are not in the local currency of the subsidiary, the Company is exposed to currency risk and may enter into foreign exchange forward contracts to hedge the currency risk. The Company is primarily exposed to the currencies of the Canadian dollar and Mexican peso, and was exposed to the currency of the Polish zloty until the sale of the Company's European printing business in the third quarter of 2018. The Company does not use derivative financial instruments for trading or speculative purposes .

OTHER INFORMATION

Environmental, Health and Safety

For a discussion of certain environmental, health and safety issues involving the Company, refer to Note 11, *Commitments and Contingencies,* to the consolidated and combined financial statements.

Litigation and Contingent Liabilities

For a discussion of certain litigation involving the Company, refer to Note 11, *Commitments and Contingencies,* to the consolidated and combined financial statements.

New Accounting Pronouncements and Pending Accounting Standards

Recently issued accounting standards and their estimated effect on the Company's consolidated and combined financial statements are also described in Note 21, *New Accounting Pronouncements* , and throughout the notes to the consolidated and combined financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is exposed to a variety of market risks that may adversely impact the Company's results of operations and financial condition, including changes in interest and foreign currency exchange rates, changes in the economic environment that would impact credit positions and changes in the prices of certain commodities. The Company's management takes an active role in the risk management process and has developed policies and procedures that require specific administrative and business functions to assist in the identification, assessment and control of various risks. These risk management strategies may not fully insulate the Company from adverse impacts due to market risks.

Interest Rate Risk

The Company is exposed to interest rate risk on variable rate debt obligations and price risk on fixed rate debt. As of December 31, 2018, the Company had:

- Fixed rate debt outstanding of $450 million at a current weighted average interest rate of 8.75%; and
- Variable rate debt outstanding of $330 million at December 31, 2018, which is comprised primarily of $265 million remaining on the Term Loan Facility and $64 million outstanding on the Revolving Credit Facility.

For the year ended December 31, 2018, the Term Loan and the Revolving Credit Facility had current weighted-average interest rates of 7.47% and 5.19%, respectively. Refer to *Debt Issuances,* included in Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* , and Note 12 *, Debt,* for more information. A hypothetical 10% change in interest rates in the near term would not have a material effect on interest expense or cash flows. A hypothetical 10% adverse change in interest rates in the near term would change the fair value of fixed rate debt at December 31, 2018, by approximately $14 million.

Foreign Currency Risk and Translation Exposure

The Company is exposed to the impact of foreign currency fluctuations in certain countries in which it operates. The exposure to foreign currency movements is limited in most countries because the operating revenues and expenses of its various subsidiaries and business units are substantially in the local currency of the country in which they operate.

Although operating in local currencies may limit the impact of currency rate fluctuations on the results of operations of the Company's non-United States subsidiaries and business units, rate fluctuations may impact the consolidated financial position as the assets and liabilities of its foreign operations are translated into U.S. dollars in preparing the Company's consolidated balance sheets. As of December 31, 2018, the Company's foreign subsidiaries had net current assets (defined as current assets less current liabilities) subject to foreign currency translation risk of $12 million. The potential decrease in net current assets as of December 31, 2018, from a hypothetical 10% adverse change in quoted foreign currency exchange rates in the near term would be approximately $1 million. This sensitivity analysis assumes a parallel shift in all major foreign currency exchange rates verses the U.S. dollar. Exchange rates rarely move in the same direction relative to the U.S. dollar due to positive and negative correlations of the various global currencies. This assumption may overstate the impact of changing exchange rates on individual assets and liabilities denominated in a foreign currency.

These international operations are subject to risks typical of international operations, including, but not limited to, differing economic conditions, changes in political climate, potential restrictions on the movement of funds, differing tax structures, and other regulations and restrictions. Accordingly, future results could be adversely impacted by changes in these or other factors.

Credit Risk

Credit risk is the possibility of loss from a customer's failure to make payments according to contract terms. Prior to granting credit, each customer is evaluated, taking into consideration the prospective customer's financial condition, payment experience, credit bureau information and other financial and qualitative factors that may affect the customer's ability to pay. Specific credit reviews and standard industry credit scoring models are used in performing this evaluation. Customers' financial condition is continuously monitored as part of the normal course of business. Some of the Company's customers are highly leveraged or otherwise subject to their own operating and regulatory risks. Based on those customer account reviews and due to the continued uncertainty of the global economy, the Company has established an allowance for doubtful accounts of $14 million as of December 31, 2018.

The Company has a large, diverse customer base and does not have a high degree of concentration with any single customer account. During the year ended December 31, 2018, the Company's largest customer accounted for less than 10% of the Company's net sales. Even if the Company's credit review and analysis mechanisms work properly, the Company may experience financial losses in its dealings with customers and other parties. Any increase in nonpayment or nonperformance by customers could adversely impact the Company's results of operations and financial condition. Economic disruptions in the near term could result in significant future charges.

Commodity Risk

The primary raw materials used by the Company are paper and ink. At this time, the Company's supply of raw materials is readily available from numerous vendors; however, based on market conditions, that could change in the future. The Company generally buys these raw materials based upon market prices that are established with the vendor as part of the procurement process.

To reduce price risk caused by market fluctuations, the Company has incorporated price adjustment clauses in certain sales contracts. Although the Company is able to pass commodity cost increases through to its customers, management believes a hypothetical 10% adverse change in the price of paper and other raw materials in the near term would have a significant effect on demand for the Company’s products due to the increase in total costs to our customers. Management is not able to quantify the likely impact of such a change in raw material prices on the Company’s consolidated statements of operations or cash flows.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial information required by Item 8 is contained in Item 15 of Part IV of this annual report on Form 10-K.

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

None.

ITEM 9A. CONTROL S AND PROCEDURES

Disclosure Controls and Procedures

As required by Rule 13a-15(b) and Rule 15d-15(e) of the Securities Exchange Act of 1934, the Company's management, including the Chief Executive Officer and Chief Financial Officer, is responsible for establishing and maintaining effective disclosure controls and procedures, as defined under Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934. As of December 31, 2018, an evaluation was performed under the supervision and with the participation of management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that disclosure controls and procedures as of December 31, 2018 were effective in ensuring information required to be disclosed in the Company's SEC reports was recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information was accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. The evaluation as of December 31, 2018 excludes the companies acquired during the year ended December 31, 2018. Refer to the *Report of Management on Internal Control Over Financial Reporting* for more information.

Changes in Internal Control Over Financial Reporting

There were no other changes in the Company's internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Report of Management on Internal Control Over Financial Reporting

The management of the Company, including the Company's Chief Executive Officer and Chief Financial Officer, is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934).

Management of the Company, including the Company's Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. Management based this assessment on criteria for effective internal control over financial reporting described in the "Internal Control—Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Under the rules and regulations of the SEC, LSC Communications has elected to exclude from its assessment of effectiveness of the Company's internal control over financial reporting as of December 31, 2018 the companies acquired during the year ended December 31, 2018. The companies acquired include Print Logistics and TriLiteral, LLC. These acquisitions constitute 4% of net sales, 3% of total assets and -24% of net loss (Print Logistics and TriLiteral, LLC had net income) in the consolidated balance sheets and statements of operations as of and for the year ended December 31, 2018. In its annual report on Form 10-K for the year ending December 31, 2019, management and the Company's independent registered public accounting firm will be required to provide an assessment as to the effectiveness of the company's internal control over financial reporting, inclusive of the acquired companies.

Based on management's assessment, management determined that, as of December 31, 2018, the Company maintained effective internal control over financial reporting with the exception noted above for acquired companies.

Deloitte & Touche LLP, an independent registered public accounting firm, who audited the consolidated financial statements of the Company included in this annual report on Form 10-K, has also audited the effectiveness of the Company's internal control over financial reporting as stated in its report appearing below.

February 19, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of LSC Communications, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of LSC Communications, Inc. and subsidiaries (the “Company”) 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 (COSO). 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 COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated and combined financial statements as of and for the year ended December 31, 2018, of the Company and our report dated February 19, 2019, expressed an unqualified opinion on those financial statements and included explanatory paragraphs related to the change in accounting principle due to the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers, and the basis of presentation of the consolidated and combined financial statements.

As described in the Report of Management on Internal Control over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Print Logistics and TriLiteral, LLC, which were acquired during 2018 and whose financial statements constitute approximately 4% of net sales, 3% of total assets, and -24% of net loss (Print Logistics and TriLiteral, LLC had net income) of the consolidated financial statement amounts as of and for the year ended December 31, 2018. Accordingly, our audit did not include the internal control over financial reporting at Print Logistics or TriLiteral, LLC.

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 Report of Management 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 included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and 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/ *DELOITTE & TOUCHE LLP*
Chicago, IL
February 19, 2019

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF LSC COMMUNICATIONS AND CORPORATE GOVERNANCE

Information regarding directors and executive officers of the Company is incorporated herein by reference to the descriptions under “Proposal 1: Election of Directors,” “About the Continuing Directors,” “The Board’s Committees and their Functions” and “Section 16(a) Beneficial Ownership Reporting Compliance” of the Company’s Proxy Statement for the Annual Meeting of Stockholders (the “2019 Proxy Statement”). See also the information with respect to the Company’s executive officers at the end of Part I of this annual report on Form 10-K under the caption “Executive Officers of LSC Communications, Inc.”

The Company has adopted a policy statement entitled *Code of Ethics* that applies to its chief executive officer and senior financial officers. In the event that an amendment to, or a waiver from, a provision of the *Code of Ethics* is made or granted, the Company intends to post such information on its web site, *www.lsccom.com* . A copy of the Company’s *Code of Ethics* has been filed as an exhibit to this annual report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

Information regarding executive and director compensation is incorporated by reference to the material under the captions “Compensation Discussion and Analysis,” “Human Resources Committee Report,” “Executive Compensation,” “Potential Payments Upon Termination or Change in Control,” “Director Compensation,” and “2018 CEO Pay Ratio” of the 2019 Proxy Statement.

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

Information regarding security ownership of certain beneficial owners and management is incorporated herein by reference to the material under the heading “Stock Ownership” of the 2019 Proxy Statement.

Information as of December 31, 2018 concerning compensation plans under which LSC Communications’ equity securities are authorized for issuance are as follows:

Plan Category	Number of Securities to Be Issued upon Exercise of Outstanding Options, Warrants and Rights (1)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b) (2)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (1)) (3)
Equity compensation plan approved by security holders	1,740,475 (a)	$ 24.47	1,064,640 (c)

(a) Includes 1,463,200 shares issuable upon the vesting of restricted stock units.
(b) Restricted stock units were excluded when determining the weighted-average exercise price of outstanding options, warrants and rights.
(c) The 2016 Performance Incentive Plan allows grants in the form of cash or bonus awards, stock options, stock appreciation rights, restricted stock, stock units or combinations thereof. The maximum number of shares of common stock that may be granted with respect to bonus awards, including performance awards or fixed awards in the form of restricted stock or other form, is 3,500,000 in the aggregate, of which 1,064,640 remain available for issuance.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATE D TRANSACTIONS AND DIRECTOR INDEPENDENCE

Information regarding certain relationships and related transactions and director independence is incorporated herein by reference to the material under the heading “Certain Relationships and Related Party Transactions,” “The Board’s Committees and Their Functions” and “Corporate Governance—Director Independence” of the 2019 Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information regarding principal accounting fees and services is incorporated herein by reference to the material under the heading “The Company’s Independent Registered Public Accounting Firm - Fees” of the 2019 Proxy Statement.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) 1. Financial Statements

The financial statements listed in the accompanying index (page F-1) to the financial statements are filed as part of this annual report on Form 10-K.

(b) Exhibits

The exhibits listed on the accompanying index (pages E-1 through E-4) are filed as part of this annual report on Form 10-K.

(c) Financial Statement Schedules omitted

Certain schedules have been omitted because the required information is included in the consolidated and combined financial statements and notes thereto or because they are not applicable or not required.

ITEM 15(a). INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGIST ERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of LSC Communications, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of LSC Communications, Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated and combined statements of operations, comprehensive income, stockholders' equity and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the 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 three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also 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 February 19, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for revenue in 2018 due to the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers, using the modified retrospective method.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's 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 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 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 financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Basis of Presentation of the Consolidated and Combined Financial Statements

As discussed in Note 1, prior to October 1, 2016, the accompanying consolidated and combined financial statements have been derived from the consolidated financial statements and accounting records of R.R. Donnelley & Sons Company. The consolidated and combined financial statements include the allocation of certain assets, liabilities, expenses and income that have historically been held at the R.R. Donnelley & Sons Company corporate level but which are specifically identifiable or attributable to the Company. The consolidated and combined financial statements also include expense allocations for certain corporate functions historically provided by R.R. Donnelley & Sons Company. These costs and allocations may not be reflective of the actual expense which would have been incurred had the Company operated as a separate unaffiliated entity apart from R.R. Donnelley & Sons Company.

/s/ *DELOITTE & TOUCHE LLP*
Chicago, Illinois
February 19, 2019

We have served as the Company's auditor since 2015.

LSC COMMUNICATIONS, INC.
CONSOLIDATED AND C OMBINED STATEMENTS OF OPERATIONS
(in millions, except per share data)

	Year Ended December 31,		
	2018	2017	2016
Net sales	$ 3,826	$ 3,603	$ 3,654
Cost of sales	3,283	3,026	3,031
Selling, general and administrative expenses (exclusive of depreciation and amortization)	328	307	304
Restructuring, impairment and other charges-net (Note 9)	35	129	18
Depreciation and amortization	138	160	171
Income (loss) from operations	42	(19)	130
Interest expense-net (Note 12)	80	72	18
Investment and other (income)-net	(48)	(47)	(45)
Income (loss) before income taxes	10	(44)	157
Income tax expense	33	13	51
Net (loss) income	$ (23)	$ (57)	$ 106
Net (loss) earnings per common share (Note 13)			
Basic net (loss) earnings per share	$ (0.67)	$ (1.69)	$ 3.25
Diluted net (loss) earnings per share	$ (0.67)	$ (1.69)	$ 3.23
Weighted-average number of common shares outstanding:			
Basic	33.8	33.8	32.5
Diluted	33.8	33.8	32.8

Refer to Notes to the Consolidated and Combined Financial Statements

LSC COMMUNICATIONS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(in millions)

	Year Ended December 31,		
	2018	**2017**	**2016**
Net (loss) income	$ (23)	$ (57)	$ 106
Other comprehensive (loss) income, net of tax (Note 16):			
Translation adjustments	(7)	21	5
Adjustment for net periodic pension plan cost, net of tax benefit of $1 million for the year ended December 31, 2018, and tax expense of $15 million and $28 million for the years ended December 31, 2017 and 2016, respectively	(4)	34	35
Other comprehensive (loss) income	(11)	55	40
Comprehensive (loss) income	$ (34)	$ (2)	$ 146

Refer to Notes to the Consolidated and Combined Financial Statements

LSC COMMUNICATIONS, INC.
CONSOLIDATED BALANCE SHEETS
(in millions, except share and per share data)

	December 31, 2018	December 31, 2017
ASSETS		
Cash and cash equivalents	$ 21	$ 34
Receivables, less allowances for doubtful accounts of $14 in 2018 (2017 - $11)	617	727
Inventories (Note 6)	197	238
Income tax receivable	4	16
Prepaid expenses and other current assets	28	31
Total current assets	867	1,046
Property, plant and equipment-net (Note 7)	508	576
Goodwill (Note 8)	103	82
Other intangible assets-net (Note 8)	156	160
Deferred income taxes	27	51
Other noncurrent assets	93	99
Total assets	$ 1,754	$ 2,014
LIABILITIES		
Accounts payable	$ 372	$ 406
Accrued liabilities (Note 10)	199	239
Short-term debt and current portion of long-term debt (Note 12)	108	123
Total current liabilities	679	768
Long-term debt (Note 12)	659	699
Pension liabilities	132	182
Restructuring and multi-employer pension liabilities (Note 9)	45	49
Other noncurrent liabilities	61	68
Total liabilities	$ 1,576	$ 1,766
Commitments and Contingencies (Note 11)		
EQUITY		
Common stock, $0.01 par value		
Authorized: 65,000,000		
Issued: 35,029,565 shares in 2018 (2017: 34,610,931)	$ —	$ —
Additional paid-in capital	828	816
Accumulated deficit	(42)	(90)
Accumulated other comprehensive loss (Note 16)	(584)	(476)
Treasury stock, at cost: 1,888,205 shares in 2018 (2017: 100,256)	(24)	(2)
Total equity	178	248
Total liabilities and equity	$ 1,754	$ 2,014

Refer to Notes to the Consolidated and Combined Financial Statements

LSC COMMUNICATIONS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF CASH FLOWS
(in millions)

	Year Ended December 31, 2018	2017	2016
Cash Flows from Operating Activities			
Net (loss) income	$ (23)	$ (57)	$ 106
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Impairment charges	6	88	—
Depreciation and amortization	138	160	171
Provision for doubtful accounts receivable	7	3	6
Share-based compensation	12	13	8
Deferred income taxes	21	(15)	(18)
Gain on sale of investments and other assets - net	(3)	(10)	—
Other	7	5	(2)
Changes in operating assets and liabilities - net of acquisitions and dispositions:			
Accounts receivable-net	103	(7)	(52)
Inventories	(6)	5	29
Prepaid expenses and other current assets	(2)	(1)	(7)
Accounts payable	(38)	103	13
Income taxes payable and receivable	11	(7)	1
Accrued liabilities and other	(71)	(75)	(24)
Net cash provided by operating activities	162	205	231
Cash Flows from Investing Activities			
Capital expenditures	(63)	(60)	(48)
Acquisitions of businesses, net of cash acquired	(48)	(236)	(8)
Disposition of business	47	—	—
Net proceeds from sales and purchase of investments and other assets	9	18	6
Other investing activities	—	—	1
Net cash (used in) investing activities	(55)	(278)	(49)
Cash Flows from Financing Activities			
Proceeds from issuance of long-term debt	—	65	816
Payments of current maturities and long-term debt	(50)	(118)	(17)
Net (payments) proceeds from credit facility borrowings	(9)	75	—
Debt issuance costs	(1)	(1)	(20)
Proceeds from issuance of common stock	—	18	—
Payments for repurchase of common stock	(20)	—	—
Dividends paid	(35)	(34)	(8)
Other financing activities	(1)	(2)	—
Payments from RRD-net	—	3	(13)
Net transfers to Parent and affiliates	—	—	(945)
Net cash (used in) provided by financing activities	(116)	6	(187)
Effect of exchange rate on cash and cash equivalents	(2)	5	(3)
Net (decrease) in cash, cash equivalents and restricted cash	(11)	(62)	(8)
Cash, cash equivalents and restricted cash at beginning of year	35	97	105
Cash, cash equivalents and restricted cash at end of period	$ 24	$ 35	$ 97

Reconciliation to the Consolidated Balance Sheets

	As of December 31, 2018	As of December 31, 2017
Cash and cash equivalents	$ 21	$ 34
Restricted cash included in prepaid expenses and other current assets	3	1
Total cash, cash equivalents and restricted cash shown in the consolidated statements of cash flows	$ 24	$ 35

	2018	2017	2016
Supplemental non-cash disclosure:			
Issuance of approximately 1.0 million shares of LSC Communications, Inc. common stock for acquisition of a business	$ —	$ 20	$ —
Assumption of warehousing equipment related to customer contract	$ —	$ —	$ 9

Refer to Notes to the Consolidated and Combined Financial Statements

LSC COMMUNICATIONS, INC.
CONSOLIDATED AND COMBINED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Common Stock		Additional Paid-in	Treasury Stock		Net Parent Company	Retained Earnings (Accumulated	Accumulated Other Comprehensive	Total
	Shares	Amount	Capital	Shares	Amount	Investment	Deficit)	(Loss) Income	Equity
Balance at December 31, 2015	—	$ —	$ —	—	$ —	$ 1,482	$ —	$ (205)	$ 1,277
Net income	—	—	—	—	—	97	9	—	106
Net transfers to parent company	—	—	—	—	—	(934)	—	—	(934)
Separation-related adjustments	—	—	—	—	—	122	—	(366)	(244)
Reclassification of net parent investment to additional paid-in capital	—	—	767	—	—	(767)	—	—	—
Issuance of common stock upon separation	32	—	—	—	—	—	—	—	—
Share-based compensation	—	—	3	—	—	—	—	—	3
Cash dividends paid	—	—	—	—	—	—	(8)	—	(8)
Other comprehensive income	—	—	—	—	—	—	—	40	40
Balance at December 31, 2016	32	$ —	$ 770	—	$ —	$ —	$ 1	$ (531)	$ 240
Net loss	—	—	—	—	—	—	(57)	—	(57)
Separation-related adjustments	—	—	(5)	—	—	—	—	—	(5)
Issuance of common stock	2	—	38	—	—	—	—	—	38
Issuance of share-based awards, net of withholdings and other	1	—	—	—	(2)	—	—	—	(2)
Share-based compensation	—	—	13	—	—	—	—	—	13
Cash dividends paid	—	—	—	—	—	—	(34)	—	(34)
Other comprehensive income	—	—	—	—	—	—	—	55	55
Balance at December 31, 2017	35	$ —	$ 816	—	$ (2)	$ —	$ (90)	$ (476)	$ 248
Net loss	—	—	—	—	—	—	(23)	—	(23)
Repurchase of common stock	—	—	—	2	(20)	—	—	—	(20)
Revenue recognition adjustments	—	—	—	—	—	—	9	—	9
Reclassification of tax rate change to accumulated deficit	—	—	—	—	—	—	97	(97)	—
Issuance of share-based awards, net of withholdings and other	—	—	—	—	(2)	—	—	—	(2)
Share-based compensation	—	—	12	—	—	—	—	—	12
Cash dividends paid	—	—	—	—	—	—	(35)	—	(35)
Other comprehensive income	—	—	—	—	—	—	—	(11)	(11)
Balance at December 31, 2018	35	$ —	$ 828	2	$ (24)	$ —	$ (42)	$ (584)	$ 178

There were dividends declared per common share of $1.04, $1.00 and $0.25 for the years ended December 31, 2018, 2017 and 2016, respectively.

Refer to Notes to the Consolidated and Combined Financial Statements

Note 1. Overview and Basis of Presentation

Description of Business

The principal business of LSC Communications, Inc., a Delaware corporation, and its direct or indirect wholly-owned subsidiaries ("LSC Communications," "the Company," "we," "our" and "us") is to offer a broad scope of traditional and digital print, print-related services and office products. The Company serves the needs of publishers, merchandisers and retailers worldwide with a service offering that includes e-services, logistics, warehousing and fulfillment and supply chain management. The Company utilizes a broad portfolio of technology capabilities coupled with consultative attention to clients' needs to increase speed to market, reduce costs, provide postal savings to customers and improve efficiencies. The Company prints magazines, catalogs, books, directories, and its office products offerings include filing products, envelopes, note-taking products, binder products, and forms.

Description of Separation

On October 1, 2016 (the "separation date"), R. R. Donnelley & Sons Company ("RRD" or the "Parent") completed the previously announced separation (the "separation") into three separate independent publicly-traded companies: (i) its publishing and retail-centric print services and office products business ("LSC Communications"); (ii) its financial communications services business ("Donnelley Financial Solutions, Inc." or "Donnelley Financial") and (iii) a global, customized multichannel communications management company, which is the business of RRD after the separation. To effect the separation, RRD undertook a series of transactions to separate net assets and legal entities. RRD completed the distribution (the "distribution") of 80.75% of the outstanding common stock of LSC Communications and Donnelley Financial to RRD stockholders on October 1, 2016. RRD retained a 19.25 % ownership stake in both LSC Communications and Donnelley Financial. On October 1, 2016, RRD stockholders of record as of the close of business on September 23, 2016 ("the record date") received one share of LSC Communications common stock and one share of Donnelley Financial common stock for every eight shares of RRD common stock held as of the record date. On March 28, 2017, RRD completed the sale of approximately 6.2 million shares of LSC Communications common stock, representing its entire 19.25% retained ownership .

Merger Agreement

On October 30, 2018, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with Quad/Graphics, Inc. ("Quad/Graphics"), and QLC Merger Sub, Inc., a direct, wholly-owned subsidiary of Quad/Graphics ("Merger Sub"). Pursuant to the Merger Agreement, subject to the terms and conditions therein, Merger Sub will merge with and into the Company (the "Merger"), with the Company continuing as the surviving corporation. Subject to the terms and conditions set forth in the Merger Agreement, at the effective time of the Merger (the "Effective Time"), each share of the Company's common stock issued and outstanding immediately prior to the Effective Time, will be converted into the right to receive 0.625 shares of class A common stock of Quad/Graphics, without interest and subject to adjustment as provided in the Merger Agreement.

The Company and Quad/Graphics have made customary representations, warranties and covenants in the Merger Agreement. Subject to certain exceptions outlined in the Merger Agreement, the Company has agreed to covenants relating to the Company's business during the period between the execution of the Merger Agreement and the consummation of the Merger, including restrictions on its ability to issue any shares of its capital stock, repurchase any shares of its capital stock and incurring additional indebtedness outside the ordinary course of business. The Merger Agreement allows the Company to continue paying a regular quarterly dividend up to $0.26 per share.

On October 30, 2018, concurrently with the execution of the Merger Agreement, the Company and the trustees (the "Trustees") under the Amended and Restated Voting Trust Agreement, dated as of June 25, 2010, pursuant to which certain shares of capital stock of Quad/Graphics are held by the Quad/Graphics, Inc. Voting Trust (the "Voting Trust"), entered into a voting and support agreement (the "Voting Agreement"). Pursuant to the Voting Agreement, the Trustees will vote all of the shares of Quad/Graphics held by the Voting Trust, which they have, directly or indirectly, the right to vote or direct the voting thereof, in favor of the issuance of class A shares of Quad/Graphics common stock in the Merger, and against any alternative acquisition proposal involving Quad/Graphics or other action that would reasonably be expected to breach the obligations of Quad/Graphics under the Merger Agreement or the Trustees under the Voting Agreement, or otherwise reasonably be expected to delay or adversely affect the Merger or the other transactions contemplated by the Merger Agreement.

The Company and Quad/Graphics filed notification and report forms in connection with the transactions contemplated by the Merger Agreement with the U.S. Department of Justice (the "DOJ") and the U.S. Federal Trade Commission pursuant to the Hart-Scott-Rodino Antitrust Improvement Act of 1976, as amended (the "HSR Act") on November 13, 2018. On December 13, 2018, the Company and Quad/Graphics each received a request for additional information and documentary material (the "Second Request") from the DOJ in connection with the DOJ's review of the transactions contemplated by the Merger Agreement.

Issuance of the Second Request extends the waiting period under the HSR Act until 30 days after both the Company and Quad/Graphics have substantially complied with the Second Request or such later time as the parties may agree with the DOJ, unless the waiting period is terminated earlier by the DOJ. The Company continues to expect the Merger to be consummated in mid-2019.

Consummation of the Merger remains subject to the adoption of the Merger Agreement by the Company stockholders, the approval by Quad/Graphics shareholders of the issuance of Quad/Graphics shares as contemplated by the Merger Agreement, the expiration of the waiting period under the HSR Act and other required regulatory approvals, and the satisfaction or waiver of the other closing conditions specified in the Merger Agreement.

Basis of Presentation

The accompanying consolidated and combined financial statements reflect the consolidated balance sheets and statements of operations of the Company as an independent, publicly traded company for the periods after the separation, and the combined statements of operations of the Company as a combined reporting entity of RRD for the periods prior to the separation. The consolidated and combined financial statements include the balance sheets, statements of operations and cash flows in conformity with accounting principles generally accepted in the United States ("GAAP"). All intercompany transactions have been eliminated in consolidation.

During the third quarter of 2018, management changed the Company's reportable segments and reporting units and restated prior year amounts to conform to the new segment structure. Refer to Note 18, *Segment Information* , for more information. Additionally, certain prior year amounts were restated to conform to the Company's current statement of operations and cash flows classifications.

The Company adopted Accounting Standards Update No. 2014-09 "Revenue from Contracts with Customers (Topic 606)" ("ASC 606", or the "standard") on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. Refer to Note 4, *Revenue Recognition* , for more information.

The Company retrospectively adopted Accounting Standards Update No. 2017-07 "Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost" ("ASU 2017-07") in the first quarter of 2018. As a result of the adoption of ASU 2017-07, the Company reclassified $46 million and $45 million related to the years ended December 31, 2017 and 2016, respectively, of net pension income from selling, general and administrative expenses to investment and other income-net, resulting in no impact to net income.

The Company retrospectively adopted Accounting Standards Update No. 2016-18 "Statements of Cash Flows (Topic 230): Restricted Cash" ("ASU 2016-18") in the first quarter of 2018. The standard requires amounts generally described as restricted cash and restricted cash equivalents to be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The standard does not provide a definition of restricted cash or restricted cash equivalents. The standard requires a retrospective transition method to be applied to each period presented. The Company included a reconciliation of beginning-of-period and end-of-period amounts in the consolidated and combined statements of cash flows to the consolidated balance sheets.

Prior to the Separation

The combined financial statements were prepared on a stand-alone basis and were derived from RRD's consolidated financial statements and accounting records. They include expenses of RRD that were allocated to LSC Communications for certain corporate functions, including healthcare and pension benefits, information technology, finance, legal, human resources, internal audit, treasury, tax, investor relations and executive oversight. These expenses were allocated to the Company on the basis of direct usage, when available, with the remainder allocated on a pro rata basis by revenue, employee headcount, or other measures. The Company considered the allocation methodologies and results to be reasonable for all periods presented, however, these allocations may not be indicative of the actual expenses that LSC Communications would have incurred as an independent public company or the costs it may incur in the future.

The income tax amounts in these combined financial statements were calculated based on a separate income tax return methodology and presented as if the Company's operations were separate taxpayers in the respective j urisdictions.

All intracompany transactions between LSC Communications, RRD and Donnelley Financial are considered to be effectively settled in the combined financial statements at the time the transaction is recorded. The total net effect of the settlement of these intracompany transactions is reflected in the combined statements of cash flows as a financing activity. Net parent company investment was primarily impacted by contributions from RRD which were the result of treasury activities and net funding provided by or distributed to RRD. In connection with the separation, the net parent investment balance was transferred to additional paid-in-capital on October 1, 2016 and is reflected in the consolidated and combined statements of equity.

Note 2. Significant Accounting Policies

Use of Estimates —The preparation of the consolidated and combined financial statements, in conformity with GAAP, requires the extensive use of management's estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and reported amounts of revenue and expenses during the reporting periods.

Actual results could differ from these estimates. Estimates are used when accounting for items and matters including, but not limited to, allowance for uncollectible accounts receivable, inventory obsolescence, asset valuations and useful lives, employee benefits, self-insurance reserves, taxes, restructuring and other provisions and contingencies.

Foreign Operations —Assets and liabilities denominated in foreign currencies are translated into U.S. dollars at the exchange rates existing at the respective balance sheet dates. Income and expense items are translated at the average rates during the respective periods. Translation adjustments resulting from fluctuations in exchange rates are recorded as a separate component of other comprehensive income (loss) while transaction gains and losses are recorded in net earnings.

Fair Value Measurements— Certain assets and liabilities are required to be recorded at fair value on a recurring basis. Fair value is determined based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The Company records the fair value of its pension plan assets on a recurring basis. Assets measured at fair value on a nonrecurring basis include long-lived assets held and used, long-lived assets held for sale, goodwill and other intangible assets. The fair value of cash and cash equivalents, accounts receivable, short-term debt and accounts payable approximate their carrying values. The three-tier value hierarchy, which prioritizes valuation methodologies based on the reliability of the inputs, is:

Level 1 — Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 —Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 —Valuations based on unobservable inputs reflecting the Company's own assumptions, consistent with reasonably available assumptions made by other market participants.

Revenue Recognition — As explained in Note 1, *Overview and Basis of Presentation* , the Company adopted ASC 606, on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. The reported results for 2018 reflect the application of ASC 606 guidance while the reported results for 2017 were prepared and continue to be reported under previous guidance.

The Company recognizes revenue at a point in time for substantially all customized products. The point in time when revenue is recognized is when the performance obligation has been completed and the customer obtains control of the products, which is generally upon shipment to the customer (dependent upon specific shipping terms).

Under agreements with certain customers, custom products may be stored by the Company for future delivery. Based upon contractual terms, the Company is typically able to recognize revenue once the performance obligation is satisfied and the customer obtains control of the completed product, usually when it completes production (depending on the specific facts and circumstances). In these situations, the Company may also receive a logistics or warehouse management fee for the services it provides, which the Company recognizes over time as the services are provided.

With certain custo mer contracts, the Company is permitted to complete a pre-defined amount of custom products and hold such inventory until the customer requests shipment (which generally is required to be delivered in the same year as production). For these items, which i nclude consigned inventory, the Company has the contractual right to receive payment once the production is completed, regardless of the ultimate delivery date. Based upon contractual terms, the Company recognizes revenue once the performance obligation h as been satisfied and the customer obtains control of the completed products, usually when production is completed.

In very limited situations, the Company is permitted to produce and hold in inventory a pre-defined amount of custom products as safety stock. Similar to completed production held in inventory, for these items, the Company has the contractual right to receive payment for the pre-defined amount once the production is completed, regardless of the ultimate delivery date. Based upon our evaluation of the contractual terms, the Company is able to recognize revenue once the performance obligation has been satisfied and the customer obtains control of the completed product, usually when production is completed.

Revenue from the Company's print related services (including list processing, mail sortation services and supply chain management) is recognized as services are completed over time.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring goods or providing services, which is based on transaction prices set forth in contracts with customers and an estimate of variable consideration, as applicable.

Variable consideration resulting from volume rebates, fixed rebates, penalties or credits for paper consumption, and sales discounts that are offered within contracts between the Company and its customers is recognized in the period the related revenue is recognized. Estimates of variable consideration are based on stated contract terms and an analysis of historical experience. The amount of variable consideration is included in the net sales price only to the extent that it is probable that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period.

A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The majority of our contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. For contracts with multiple performance obligations, such as co-mail and catalog production, the transaction price allocated to each performance obligation is based on the price stated in the customer contract, which represents the Company's best estimate of the standalone selling price of each distinct good or service in the contract.

Billings for shipping and handling costs are recorded gross. The Company made an accounting policy election under ASC 606 to account for shipping and handling after the customer obtains control of the good as fulfillment activities rather than as a separate service to the customer. As a result, the Company accrues the costs of the shipping and handling if revenue is recognized for the related good before the fulfillment activities occur.

Many of the Company's operations process materials, primarily paper, that may be supplied directly by customers or may be purchased by the Company and sold to customers as part of the end product. No revenue is recognized for customer-supplied paper, but revenues for Company-supplied paper are recognized on a gross basis. As a result, the Company's reported sales and margins may be impacted by the mix of customer-supplied paper and Company-supplied paper.

The Company records taxes collected from customers and remitted to governmental authorities on a net basis.

Contracts do not contain a significant financing component as payment terms on invoiced amounts are typically between 30 to 120 days, based on the Company's credit assessment of individual customers, as well as industry expectations.

The timing of revenue recognition, billings and cash collections results in accounts receivable and unbilled receivables (contract assets), and customer advances and deposits (contract liabilities) on the consolidated balance sheet. Revenue recognition generally coincides with the Company's contractual right to consideration and the issuance of invoices to customers. Depending on the nature of the performance obligation and arrangements with customers, the timing of the issuance of invoices may result in contract assets or contract liabilities. Contract assets related to unbilled receivables are recognized for satisfied performance obligations for which the Company cannot yet issue an invoice. Contract liabilities result from advances or deposits from customers on performance obligations not yet satisfied.

Because the majority of the Company's products are customized, product returns are not significant; however, the Company accrues for the estimated amount of customer returns at the time of sale.

Refer to Note 4, *Revenue Recognition* , for further discussion .

By-product recoveries —The Company records the sale of by-products as a reduction of cost of sales.

Cash and cash equivalents —The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. Short-term securities consist of investment grade instruments of governments, financial institutions and corporations.

Receivables— Receivables are stated net of allowances for doubtful accounts and primarily include trade receivables, notes receivable and miscellaneous receivables from suppliers. No single customer comprised more than 10% of our net sales in 2018, 2017 or 2016. Specific customer provisions are made when a review of significant outstanding amounts, utilizing information about customer creditworthiness and current economic trends, indicates that collection is doubtful. In addition, provisions are made at differing rates, based upon the age of the receivable and the Company's historical collection experience. Refer to Note 5, *Accounts Receivable,* for details of activity affecting the allowance for doubtful accounts receivable.

Inventories —Inventories include material, labor and factory overhead and are stated at the lower of cost or market and net of excess and obsolescence reserves for raw materials and finished goods. Provisions for excess and obsolete inventories are made at differing rates, utilizing historical data and current economic trends, based upon the age and type of the inventory. Specific excess and obsolescence provisions are also made when a review of specific balances indicates that the inventories will not be utilized in production or sold.

The cost of 63.0% and 63.9% of the inventories at December 31, 2018 and 2017, respectively, has been determined using the Last-In, First-Out ("LIFO") method. The LIFO method is intended to reflect the effect of inventory replacement costs within the consolidated and combined statements of operations; accordingly, charges to cost of sales generally reflect recent costs of material, labor and factory overhead. The Company uses an external-index method of valuing LIFO inventories. The remaining inventories, primarily related to certain acquired and international operations, are valued using the First-In, First-Out ("FIFO") or specific identification methods.

Long-Lived Assets —The Company assesses potential impairments to its long-lived assets if events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Indefinite-lived intangible assets are reviewed annually for impairment or more frequently if events or changes in circumstances indicate that the carrying value may not be recoverable. An impaired asset is written down to its estimated fair value based upon the most recent information available. Estimated fair market value is generally measured by discounting estimated future cash flows. Long-lived assets, other than goodwill and other intangible assets, that are held for sale, are recorded at the lower of the carrying value or the fair market value less the estimated cost to sell.

Property, plant and equipment —Property, plant and equipment are recorded at cost and depreciated on a straight-line basis over their estimated useful lives. Useful lives range from 15 to 40 years for buildings, the lesser of 7 years or the lease term for leasehold improvements and from 3 to 15 years for machinery and equipment. Maintenance and repair costs are charged to expense as incurred. Major overhauls that extend the useful lives of existing assets are capitalized. When properties are retired or disposed, the costs and accumulated depreciation are eliminated and the resulting profit or loss is recognized in the results of operations.

Goodwill —Goodwill is assigned to a specific reporting unit, depending on the nature of the acquired company.

Goodwill is reviewed for impairment annually as of October 31 or more frequently if events or changes in circumstances indicate that it is more likely than not that the fair value of a reporting unit is below its carrying value.

For certain reporting units, the Company may perform a qualitative, rather than quantitative, assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. In performing this qualitative analysis, the Company considers various factors, including the excess of prior year estimates of fair value compared to carrying value, the effect of market or industry changes and the reporting unit's actual results compared to projected results. Based on this qualitative analysis, if management determines that it is more likely than not that the fair value of the reporting unit is greater than its carrying value, no further impairment testing is performed.

For the remaining reporting units, the Company compares each reporting unit's fair value, estimated based on comparable company market valuations and expected future discounted cash flows to be generated by the reporting unit, to its carrying value. As a result of the Company's early adoption of ASU 2017-04 "Intangibles – Goodwill and Other (Topic 350)" during the third quarter of 2017, if the carrying value exceeds the reporting unit's fair value, the Company recognizes an impairment charge equal to the amount by which the carrying value exceeds the reporting unit's fair value not to exceed the total amount of goodwill recorded.

Re fer to Note 9 , *Restructuring, Impairment and Other Charges,* for more information regar ding the Company's annual impairment reviews.

Amortization —Certain costs to acquire and develop internal-use computer software are capitalized and amortized over their estimated useful life using the straight-line method, up to a maximum of 3 years. Amortization expense, primarily related to internally-developed software and excluding amortization expense related to other intangible assets, was $9 million, $5 million and $5 million for the years ended December 31, 2018, 2017 and 2016, respectively. Deferred debt issuance costs are amortized over the term of the related debt.

Other intangible assets, except for those intangible assets with indefinite lives, are recognized separately from goodwill and are amortized over their estimated useful lives. Other intangible assets with indefinite lives are not amortized. Refer to Note 8 *, Goodwill and Other Intangible Assets,* for further discussion of other intangible assets and the related amortization expense.

Share-Based Compensation — The Company recognizes compensation expense for share-based awards expected to vest on a straight-line basis over the requisite service period of the award based on their grant date fair value. Prior to the separation, RRD maintained an incentive share-based compensation program for certain individuals, including certain LSC Communications employees. The share-based compensation expense was allocated to the Company based on the awards and terms previously granted to the Company's employees, as well as an allocation of expense related to RRD's corporate and shared functional employees. Refer to Note 17, *Stock and Incentive Programs,* for further discussion.

Pension and Other Postretirement Benefits Plans — At the separation date, the Company recorded net benefit obligations transferred from RRD. T he Company records annual income and expense amounts relating to its pension plans based on calculations that include various actuarial assumptions, including discount rates, mortality, assumed rates of return, compensation increases, and turnover rates. The Company reviews its actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends when it is deemed appropriate to do so. The effect of modifications on the value of plan obligations and assets is recognized immediately within other comprehensive income (loss) and amortized into operating earnings over future periods. The Company believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience, market conditions and input from its actuaries and investment advisors. Refer to Note 14, *Retirement Plans* , for information on a partial settlement completed by the Company in the first quarter of 2019.

Prior to the separation, certain employees of the Company participated in various pension and postretirement health care plans sponsored by RRD. In the Company's combined financial statements, these plans were accounted for as multiemployer benefit plans and no net liabilities were reflected in the Company's combined balance sheets as there were no unfunded contributions due at the end of any reporting period. The Company's statements of operations included expense allocations for these benefits. These expenses were funded through intercompany transactions with RRD and were reflected within net parent company investment in LSC Communications. Certain plans in LSC Communications' Mexico and U.S. operations were direct obligations of LSC Communications and were recorded in the combined financial statements. Refer to Note 14, *Retirement Plans* , for further discussion.

Taxes on Income —The Company has recorded deferred tax assets related to future deductible items, including domestic and foreign tax loss and credit carryforwards. The Company evaluates these deferred tax assets by tax jurisdiction. The utilization of these tax assets is limited by the amount of taxable income expected to be generated within the allowable carryforward period and other factors. Accordingly, management has provided a valuation allowance to reduce certain of these deferred tax assets when management has concluded that, based on the weight of available evidence, it is more likely than not that the deferred tax assets will not be fully realized. If actual results differ from these estimates, or the estimates are adjusted in future periods, adjustments to the valuation allowance might need to be recorded.

Significant judgment is required in determining the provision for income taxes and related accruals, deferred tax assets and liabilities and any valuation allowance recorded against deferred tax assets. In the ordinary course of business, there are transactions and calculations where the ultimate tax outcome is uncertain. Additionally, the Company's tax returns are subject to audit by various U.S. and foreign tax authorities. The Company recognizes a tax position in its financial statements when it is more likely than not (a likelihood of more than fifty percent) that the position would be sustained upon examination by tax authorities. This recognized tax position is then measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Although management believes that its estimates are reasonable, the final outcome of uncertain tax positions may be materially different from that which is reflected in the Company's consolidated financial statements. The Company classifies interest expense and any related penalties related to income tax uncertainties as a component of income tax expense. Refer to Note 15 *, Income Taxes,* for further discussion.

Prior to the separation, in the Company's combined financial statements, income tax expense and deferred tax balances were calculated on a separate return basis, although with respect to certain entities, the Company's operations were historically included in the tax returns filed by the respective RRD entities of which the Company's business was formerly a part. For periods after the separation, the Company has and will continue to file tax returns on its own behalf. The provision for income tax and income tax balances after the separation represent the Company's tax liabilities as an independent company.

Comprehensive Income (Loss) —Comprehensive income (loss) for the Company consists of net earnings, unrecognized actuarial gains and losses and foreign currency translation adjustments. Refer to Note 16 *, Comprehensive Income,* for further discussion.

Note 3. Business Combinations and Disposition

2018 Acquisition

On July 2, 2018, the Company completed the acquisition of RRD's Print Logistics business ("Print Logistics"), an integrated logistics services provider to the print industry with an expansive distribution network. The acquisition enhanced the Company's logistics service offering. The original total purchase price was $58 million in cash, which was reduced to $52 million as a result of a $6 million net working capital settlement in the fourth quarter of 2018. As of December 31, 2018, $21 million was recorded in goodwill related to this acquisition. For the year ended December 31, 2018 , the Company's consolidated statement of operations included net sales of $159 million and $5 million of income from operations attributable to the acquisition of Print Logistics.

2018 Disposition

On September 28, 2018, the Company completed the sale of its European printing business, which included web offset manufacturing facilities, a logistics and warehousing site and a location dedicated to premedia services, for proceeds of $47 million. For the nine months ended September 30, 2018, the European printing business had $178 million and $3 million of net sales and income from operations, respectively. See Note 15, *Income Taxes* , for information related to a $25 million non-cash provision recorded primarily for the write-off of a deferred tax asset associated with the disposition.

2017 Acquisitions

On November 29, 2017, the Company acquired The Clark Group, Inc. ("Clark Group"), a third-party logistics provider of distribution, consolidation, transportation management and international freight forwarding services. The acquisition enhanced the Company's logistics service offering. The total purchase price was $25 million in cash, of which $16 million was recorded in goodwill.

On November 9, 2017, the Company acquired Quality Park, a producer of envelopes, mailing supplies and assorted packaging items. The acquisition enhanced the Company's office products offerings. The total purchase price was $41 million in cash, resulting in a bargain purchase gain of $2 million. We reassessed the recognition and measurement of identifiable assets and liabilities acquired and concluded that all acquired assets and liabilities were recognized and that the valuation procedures and resulting estimates were appropriate.

On September 7, 2017, the Company acquired Publishers Press, LLC, a printing provider with capabilities such as web-offset printing, prepress and distribution services for magazines and retail brands. The acquisition enhanced the Company's printing capabilities. The total purchase price was $68 million in cash, of which $1 million was recorded in goodwill.

On August 21, 2017, the Company acquired the assets of NECI, LLC ("NECI"), a supplier of commodity and specialty filing supplies . The acquisition enhanced the Company's office products offerings. The purchase price, which included the Company's estimate of contingent consideration, was $6 million in cash, of which $1 million was recorded in goodwill.

On August 17, 2017, the Company acquired CREEL Printing, LLC ("CREEL"), an offset and digital printing company. The acquisition enhanced the capabilities of the Company's offset and digital production platform and brought enhanced technologies to support our clients' evolving needs, specifically in the magazine media and retail marketing industries. CREEL's capabilities include full-color web and sheetfed printing, regionally distributed variable digital production, large-format printing, and integrated digital solutions. The purchase price, which included the Company's estimate of contingent consideration, was $79 million in cash, of which $26 million was recorded in goodwill.

On July 28, 2017, the Company acquired Fairrington Transportation Corp., F.T.C. Transport, Inc. and F.T.C. Services, Inc. ("Fairrington"), a full-service, printer-independent mailing logistics provider in the United States. The acquisition enhanced the Company's logistics service offering. The purchase price was $19 million in cash and approximately 1.0 million shares of LSC Communications common stock, for a total transaction value of $39 million. Of the total purchase price, $22 million was recorded in goodwill.

On March 1, 2017, the Company acquired HudsonYards Studios, LLC ("HudsonYards"), a digital and print premedia production company that provides high-quality creative retouching, computer-generated imagery, mechanical creation, press-ready file preparation, and interactive production services. The acquisition enhanced the Company's digital and premedia capabilities. The purchase price for HudsonYards was $3 million in cash, of which $2 million was recorded in goodwill.

Refer below for a summary of the segments and reporting units where the acquisitions are included as of December 31, 2018.

	Segment	Reporting Unit
Print Logistics	Magazines, Catalogs and Logistics	Logistics
Clark Group	Magazines, Catalogs and Logistics	Logistics
Quality Park	Office Products	Office Products
Publishers Press	Magazines, Catalogs and Logistics	Magazines and Catalogs
NECI	Office Products	Office Products
CREEL	Magazines, Catalogs and Logistics	Magazines and Catalogs
Fairrington	Magazines, Catalogs and Logistics	Logistics
HudsonYards	Magazines, Catalogs and Logistics	Magazines and Catalogs

The acquisitions were recorded by allocating the cost of the acquisitions to the assets acquired, including other intangible assets, based on their estimated fair values at the acquisition date. The excess of the cost of the acquisitions over the net amounts assigned to the fair value of the assets acquired was recorded in goodwill. The goodwill is primarily attributable to the synergies expected to arise as a result of the acquisitions.

The tax deductible goodwill related to the Print Logistics, Clark Group, Quality Park, Publishers Press, NECI, CREEL, Fairrington, and HudsonYards acquisitions was $63 million.

The purchase price allocations for all acquisitions are final as of December 31, 2018. There were no significant changes to the purchase price allocations for the 2017 acquisitions as of December 31, 2018 compared to the disclosed purchase price allocations in the Company's annual report on Form 10-K for the year ended December 31, 2017. As previously mentioned, there was a $6 million net working capital settlement related to Print Logistics in the fourth quarter of 2018.

The purchase price allocations for several of the acquisitions noted above were as follows:

	Print Logistics	Clark Group	Quality Park	Publishers Press	CREEL	Fairrington
Accounts Receivable	$ 40	$ 6	$ 19	$ 27	$ 12	$ 6
Inventories	—	—	27	13	5	—
Prepaid expenses and other current assets	1	—	1	1	1	—
Property, plant and equipment	8	—	8	36	20	6
Other intangible assets	17	14	1	—	23	17
Other noncurrent assets	—	—	—	1	—	1
Goodwill (bargain purchase)	21	16	(2)	1	26	22
Accounts payable and accrued liabilities	(35)	(8)	(11)	(14)	(9)	(4)
Deferred taxes - net	—	(3)	(2)	—	—	(9)
Purchase price, net of cash acquired	$ 52	$ 25	$ 41	$ 65	$ 78	$ 39
Less: value of common stock issued	—	—	—	—	—	20
Less: accrued but unpaid contingent consideration	—	—	—	—	1	—
Net cash paid	$ 52	$ 25	$ 41	$ 65	$ 77	$ 19

In accordance with ASC 350, *I ntangibles — Goodwill and Other* , the Company is required to test its goodwill for impairment annually, or more often if there is an indication that goodwill might be impaired. Given the historical valuations of the Company's former magazines, catalogs and retail inserts reporting unit that have resulted in goodwill impairment in prior years, combined with the change in the composition of the carrying value of the reporting unit due to the acquisitions completed during the year ended December 31, 2017, the Company determined it necessary to perform goodwill impairment reviews on this former reporting unit as of September 30, 2017, and again as of December 31, 2017 due to the ac quisitions that were completed in the second half of 2017 .

As a result of the goodwill impairment tests, and consistent with prior goodwill impairment tests, the Company's former magazines, catalogs and retail inserts reporting unit's fair value continued to be at a value below its carrying value. This is primarily due to the negative revenue trends experienced in recent years that are only partially offset by the impact of the new acquisitions. The charges to recognize the impairment of goodwill in the former magazines, catalogs and retail inserts reporting unit were $55 million and $18 million during the three months ended September 30, 2017 and December 31, 2017, respectively. The total charge was $73 million for 2017, resulting in zero goodwill associated with the former magazines, catalogs and retail inserts reporting unit as of December 31, 2017.

As a result of the Company's change in reportable segments and reporting units during the third quarter of 2018, as discussed in Note 18, *Segment Information* , the impairment charges recognized during the three months ended September 30, 2017 and the year ended December 31, 2017 in the Company's former magazines, catalogs and retail inserts reporting units were restated in 2018 to the reporting units below:

	Three Months Ended September 30, 2017	Year Ended December 31, 2017
Magazines and Catalogs	$ 28	$ 30
Logistics	22	38
Other	5	5
Total	$ 55	$ 73

The Company performed its annual goodwill tests in the fourth quarter of 2018 based on the new reporting unit structure.

The fair values of goodwill, other intangible assets and property, plant and equipment associated with the acquisitions were determined to be Level 3 under the fair value hierarchy, which included discounted cash flow analyses, comparable marketplace fair value data and management's assumptions for the goodwill impairment charges. Property, plant and equipment values were estimated using either the cost or market approach, if a secondhand market existed. The following table presents the fair value, valuation techniques and related unobservable inputs for these Level 3 measurements associated with the 2018 Print Logistics acquisition:

	Fair Value	Valuation Technique	Unobservable Input	Value
Customer relationships	$ 17	Multi-period excess earnings method	Existing customer growth rate	(3.5%)
			Attrition rate	7.5%
			Discount rate	18.0%

For the years ended December 31, 2018, 2017 and 2016, the Company recorded $2 million, $5 million and a de minimis amount, respectively, associated with the completed and contemplated acquisitions within selling, general and administrative expenses in the consolidated and combined statements of operations.

Pro forma results

The following unaudited pro forma financial information for the year ended December 31, 2018 and 2017 presents the consolidated statements of operations of the Company and the acquisitions described above, as if the acquisitions had occurred as of January 1 of the year prior to the acquisitions.

The unaudited pro forma financial informati on is not intended to represent or be indicative of the Com pany's consolidated statements of operations that would have been reported had these acquisitions been completed as of the beginning of the period presented and should not be taken as indicative of the Company's future consolidated statements of operations . Pro forma adjustments are tax-effected at the applicable statutory tax rates.

	Year Ended December 31,	
	2018	2017
Net sales	$ 3,911	$ 4,114
Net (loss)	(26)	(56)
Net (loss) per common share		
Basic	$ (0.77)	$ (1.66)
Diluted	$ (0.77)	$ (1.66)

The following table outlines unaudited pro forma financial information for the years ended December 31, 2018 and 2017:

	Year Ended December 31,	
	2018	2017
Amortization of purchased intangibles	$ 19	$ 24

Additionally, the nonrecurring pro forma adjustments affecting net income for the years ended December 31, 2018 and 2017 were as follows:

	Year Ended December 31,	
	2018	2017
Restructuring, impairment and other charges, pre-tax	$ —	$ (1)
Other pro forma adjustments, pre-tax	—	2
Income taxes	—	3
Acquisition-related expenses, pre-tax	—	(1)
Inventory fair value adjustments, pre-tax	—	2

Note: A negative number in the table above represents a decrease to income in pro forma net income.

Note 4. Revenue Recognition

Financial Statement Impact of Adopting ASC 606

As part of the adoption of ASC 606, the Company assessed all aspects of the standard's potential impact and focused further assessment on customized products, deferred revenue and certain items in inventory, which are areas that were determined could have had a material impact on the Company's accounting for revenue. Potential impacts of other aspects of the standard have not had a material impact to the Company's accounting for revenue.

The Company completed the evaluation of whether the accounting for revenue from customized products should be over time or at a point in time under the standard. Based on analysis of specific terms associated with current customer contracts, the Company concluded that revenue should be recognized at a point in time for substantially all customized products. This treatment is consistent with revenue recognition under previous guidance, where revenue was recognized when the products were completed and shipped to the customer (dependent upon specific shipping terms). Any contracts whereby revenue for customized products should be recognized over time, as opposed to a point in time, are immaterial due to the de minimis nature of any particular order under such contracts in production at any given point in time. As revenue recognition is dependent upon individual contractual terms, the Company will continue its evaluation of any new or amended contracts entered into, including contracts that the Company might assume as a result of acquisition activity.

With respect to deferred revenue and certain items in inventory, the Company determined ASC 606 impacted the following situations:

- Completed production billed to the customer but not yet shipped: Under previous guidance, for a majority of these situations the Company deferred revenue for completed production items for which the customer had requested to be billed (or for which the Company is entitled to bill under the contract), but for which the production items had not yet shipped to the customer. Under ASC 606, based upon our evaluation of the contractual terms, the Company is typically able to recognize revenue once it completes production depending on the specific facts and circumstances.
- Completed production held in inventory (including consigned inventory): With certain customer contracts, the Company is permitted to complete a pre-defined amount of product and hold such inventory until the customer requests shipment (which generally is required to be delivered in the same year as production). For these items, the Company has the contractual right to receive payment once the production is completed, regardless of the ultimate delivery date. Under previous guidance, the Company held this as inventory and recognized revenue upon shipment to the customer. Under ASC 606, based upon our evaluation of the contractual terms, the Company is able to recognize revenue once it completes production.
- Safety stock: In very limited situations, the Company is permitted to produce and hold in inventory a pre-defined amount of safety stock. Similar to completed production held in inventory, for these items the Company has the contractual right to receive payment for the pre-defined amount once the production is completed, regardless of the ultimate delivery date. Under previous guidance, the Company held this as inventory and recognized revenue upon shipment to the customer. Under ASC 606, based upon our evaluation of the contractual terms, the Company is able to recognize revenue once it completes production.

Upon adoption of ASC 606, the Company eliminated any deferred revenue and inventory associated with the above three categories against its accumulated deficit within total equity. Based upon the balances that existed as of December 31, 2017, the Company recorded adjustments to the following accounts as of January 1, 2018:

	As Reported	Adjustments	Adjusted
	December 31, 2017	Adoption of ASC 606	January 1, 2018
Assets			
Receivables, net	$ 727	$ 32	$ 759
Inventories	238	(32)	206
Deferred income taxes	51	(3)	48
Liabilities			
Accrued liabilities	$ 239	$ (12)	$ 227
Equity			
(Accumulated deficit) retained earnings	$ (90)	$ 9	$ (81)

As a result of the above adjustments, total assets decreased by $3 million, total liabilities decreased by $12 million and total equity increased by $9 million. The equity adjustment was net of tax of $3 million.

The following tables compare impacted accounts from the reported consolidated balance sheet and statement of operations, as of and for the year ended December 31, 2018, to their pro forma amounts had the previous guidance been in effect:

	December 31, 2018		
	As Reported	Adjustments Adoption of ASC 606	As if the previous standard was in effect
Assets			
Receivables, net	$ 617	$ (44)	$ 573
Inventories	197	39	236
Deferred income taxes	27	4	31
Liabilities			
Accounts payable	$ 372	$ (1)	$ 371
Accrued liabilities	199	12	211
Equity			
Accumulated deficit	$ (42)	$ (12)	$ (54)

The difference between the reported balances and the pro forma balances above is due to the deferred revenue and inventory in the pro forma balances associated with completed production billed to the customer but not yet shipped, completed production held in inventory (including consigned inventory) and safety stock.

	Year Ended December 31, 2018		
	As Reported	Adjustments from Adoption of ASC 606	As if the previous standard was in effect
Net sales	$ 3,826	$ (8)	$ 3,818
Cost of sales	3,283	(4)	3,279
Income tax expense (benefit)	33	(1)	32
Net (loss) per common share			
Basic net (loss) per share	$ (0.67)	$ (0.09)	$ (0.76)
Diluted net (loss) per share	(0.67)	(0.09)	(0.76)

The differences between the reported balances and the pro forma balances above are due to the following impacts:

- The completed production items for which control has passed to the customer and the customer had requested to be billed (or for which the Company is entitled to bill under the contract), but for which the production items had not yet shipped: Under ASC 606, the Company recognizes revenue for items for which control has passed to the customer, which is typically once it completes production, while under previous guidance revenue would have been deferred until the produced items were shipped.
- Variable consideration relating to paper over-consumption penalties and under-consumption credits that are part of certain customer contracts and were previously recorded in cost of sales are now recorded within revenue.
- The adoption of ASC 606 had no impact on the Company’s cash flows from operating activities.

Disaggregated Revenue

The following table provides information about disaggregated revenue by major products/service lines and timing of revenue recognition, and includes a reconciliation of the disaggregated revenue with reportable segments.

	Year Ended December 31, 2018					
	Magazines, Catalogs and Logistics	Book	Office Products	Other	Corporate	Total
Major Products / Service Lines						
Book (a)	$ —	$ 1,055	$ —	$ —	$ —	$ 1,055
Magazines and Catalogs (b)	$ 1,497	$ —	$ —	$ 338	$ —	$ 1,835
North America	1,497	—	—	174	—	1,671
Europe	—	—	—	164	—	164
Logistics	$ 270	$ —	$ —	$ —	$ —	$ 270
Directories	$ —	$ —	$ —	$ 106	$ —	$ 106
North America	—	—	—	92	—	92
Europe	—	—	—	14	—	14
Office Products	$ —	$ —	$ 562	$ —	$ (2)	$ 560
Total	$ 1,767	$ 1,055	$ 562	$ 444	$ (2)	$ 3,826
Timing of Revenue Recognition						
Products and services transferred at a point in time	$ 1,371	$ 929	$ 562	$ 367	$ (2)	$ 3,227
Products and services transferred over time	396	126	—	77	—	599
Total	$ 1,767	$ 1,055	$ 562	$ 444	$ (2)	$ 3,826

(a) Includes e-book formatting and supply chain management associated with book production
(b) Includes premedia and co-mail

Contract Balances

The following table provides changes in contract assets and liabilities during the year ended December 31, 2018.

	Short-Term Contract Assets		Long-Term Contract Assets		Contract Liabilities	
Beginning Balance, January 1, 2018	$	32	$	36	$	21
Additions to unbilled accounts receivable		42		—		—
Unbilled accounts receivable recognized in trade receivables		(30)		—		—
Payment of contract acquisition costs		—		5		—
Amortization of contract acquisition costs		—		(11)		—
Revenue recognized that was included in contract liabilities as of January 1, 2018		—		—		(18)
Increases due to cash received		—		—		13
Ending Balance, December 31, 2018	$	44	$	30	$	16

The trade receivables balances as of January 1, 2018 and December 31, 2018 were $647 million and $488 million, respectively.

Contract Acquisition Costs

In connection with the adoption of ASC 606, the Company is required to capitalize certain contract acquisition costs. As of December 31, 2017 under previous guidance, the Company had capitalized $36 million in contract acquisition costs related to contracts that were not completed. The Company did not have any other costs that were required to be capitalized on January 1, 2018 with the adoption of ASC 606. For contracts that have a duration of less than one year, the Company follows the ASC 606 practical expedient approach and expenses these costs when incurred; for contracts with life exceeding one year, the Company records these costs in proportion to each completed contract performance obligation. For the year ended December 31, 2018, the amount of amortization was $11 million and there was no impairment loss in relation to costs capitalized.

Note 5. Accounts Receivable

Transactions affecting the allowances for doubtful accounts receivable balance during the years ended December 31, 2018, 2017 and 2016 were as follows:

	2018		2017		2016	
Balance, beginning of year	$	11	$	10	$	11
Provisions charged to expense		7		3		6
Write-offs and other		(4)		(2)		(7)
Balance, end of year	$	14	$	11	$	10

Note 6. Inventories

The components of the Company's inventories, net of excess and obsolescence reserves for raw materials and finished goods, at December 31, 2018 and 2017 were as follows:

	2018		2017	
Raw materials and manufacturing supplies	$	119	$	114
Work in process		50		69
Finished goods		80		112
LIFO reserve		(52)		(57)
Total	$	197	$	238

During the years ended December 31, 2018, 2017 and 2016 , the Company recognized a LIFO benefit of $5 million, $1 million and $1 million, respectively.

Note 7. Property, Plant and Equipment

The components of the Company's property, plant and equipment at December 31, 2018 and 2017 were as follows:

	2018	2017
Land	$ 43	$ 45
Buildings	709	739
Machinery and equipment	3,759	4,012
	4,511	4,796
Less: Accumulated depreciation	(4,003)	(4,220)
Total	$ 508	$ 576

During the years ended December 31, 2018, 2017 and 2016, depreciation expense was $112 million, $137 million and $149 million, respectively.

Refer to Note 9, *Restructuring, Impairment and Other Charges* , for information on impairment recorded during the years ended December 31, 2018 and 2017. There was no impairment recoded during the year ended December 31, 2016.

Assets Held for Sale

Primarily as a result of restructuring actions, certain facilities and equipment are considered held for sale. The net book value of assets held for sale was $3 million and $7 million at December 31, 2018 and 2017, respectively. These assets were included in other current assets in the consolidated balance sheets at the lower of their historical net book value or their estimated fair value, less estimated costs to sell.

Note 8. Goodwill and Other Intangible Assets

The changes in the carrying amount of goodwill for the years ended December 31, 2018 and 2017 were as follows:

	Magazines, Catalogs and Logistics	Book	Office Products	Other	Total
Net book value as of January 1, 2017					
Goodwill	$ 434	$ 354	$ 109	$ 64	$ 961
Accumulated impairment losses	(434)	(303)	(79)	(61)	(877)
Total	—	51	30	3	84
Acquisition	68	—	1	2	71
Impairment charges	(68)	—	—	(5)	(73)
Net book value as of December 31, 2017					
Goodwill	$ 502	$ 354	$ 110	$ 78	$ 1,044
Accumulated impairment losses	(502)	(303)	(79)	(78)	(962)
Total	—	51	31	—	82
Acquisition	21	—	—	—	21
Net book value as of December 31, 2018					
Goodwill	523	354	110	5	992
Accumulated impairment losses	(502)	(303)	(79)	(5)	(889)
Total	$ 21	$ 51	$ 31	$ —	$ 103

The goodwill balances for the Other grouping were impacted by changes in foreign currencies, which net to $0 on a net goodwill basis.

As a result of the Company's disposition of its European printing business on September 28, 2018, Europe's goodwill (included in the Other grouping) as of the disposition date, $73 million of gross goodwill and ac cumulated impairment losses for a net $0 balance, was written off on the disposition date.

The components of other intangible assets at December 31, 2018 and 2017 were as follows:

	December 31, 2018			December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
Customer relationships	$ 268	$ (137)	$ 131	$ 256	$ (125)	$ 131
Trade names	9	(6)	3	9	(4)	5
Total amortizable other intangible assets	277	(143)	134	265	(129)	136
Indefinite-lived trade names	22	—	22	24	—	24
Total other intangible assets	$ 299	$ (143)	$ 156	$ 289	$ (129)	$ 160

The Company recorded customer relationships additions to other intangible assets of $17 million for the Print Logistics acquisition during the year ended December 31, 2018, that has an amortization period of 10 years.

Amortization expense for other intangible assets was $18 million, $18 million and $16 million for the years ended December 31, 2018, 2017 and 2016, respectively.

The following table outlines the estimated annual amortization expense related to other intangible assets as of December 31, 2018:

For the year ending December 31,	Amount
2019	$ 17
2020	17
2021	15
2022	15
2023	14
2024 and thereafter	56
Total	$ 134

Refer to Note 9 , *Restructuring, Impairment and Other Charges* , for discussion of goodwill and intangibles impairment charges recorded during the years ended December 31, 2018 and 2017.

Note 9. Restructuring, Impairment and Other Charges

Calendar Year 2018

	Employee Terminations	Other Restructuring Charges	Total Restructuring Charges	Impairment	Other Charges	Total
Magazines, Catalogs and Logistics	$ 10	$ 8	$ 18	$ 2	$ —	$ 20
Book	—	4	4	—	2	6
Office Products	1	2	3	3	—	6
Other	1	—	1	—	—	1
Corporate	2	—	2	—	—	2
Total	$ 14	$ 14	$ 28	$ 5	$ 2	$ 35

Restructuring Charges

For the year ended December 31, 2018, the Company incurred employee-related charges of $14 million for an aggregate of 811 employees, of whom 282 were terminated as of or prior to December 31, 2018, primarily related to two facility closures in the Magazines, Catalogs and Logistics segment, one facility closure in the Office Products segment and the reorganization of certain business units and corporate functions. The Company also incurred other restructuring charges of $14 million primarily due to charges related to facility costs, a loss related to the Company's disposition of its retail offset printing facilities and pension withdrawal obligations related to facility closures.

Impairment Charges

For the year ended December 31, 2018, the Company recorded the following net impairment charges, which are explained further below:

	Property, Plant and Equipment	Other Intangible Assets	Goodwill	Total
Magazines, Catalogs and Logistics	$ 3	$ —	$ (1)	$ 2
Office Products	—	3	—	3
Total	$ 3	$ 3	$ (1)	$ 5

Property, Plant and Equipment

The net charges of $3 million primarily related to machinery and equipment associated with facility closings in the Magazines, Catalogs and Logistics segment.

Other Intangible Assets – Indefinite-Lived Tradenames

The Company recorded charges of $3 million for the impairment of certain acquired indefinite-lived tradenames intangible assets in the Office Products segment. The impairment of the indefinite-lived tradenames intangible assets resulted from negative revenue trends experienced in recent years and lower expectations of future revenue to be derived from those tradenames. The impairment was determined using Level 3 inputs and estimated based on cash flow analyses, which included management's assumptions related to future revenues and profitability. After recording the impairment charges, remaining indefinite-lived tradenames in the Office Products segment is $21 million.

Goodwill

The year ended December 31, 2018 included a reduction of $1 million of goodwill impairment charges as a result of a $1 million adjustment of previously recorded goodwill associated with the 2017 acquisitions.

__Fair Value Measurements__

The fair value as of the measurement date, net book value as of the end of the year and related impairment charge for assets measured at fair value on a nonrecurring basis subsequent to initial recognition during the year ended December 31, 2018 is disclosed below.

	Year Ended December 31, 2018		As of December 31, 2018
	Impairment Charge	Fair Value Measurement (Level 3)	Net Book Value
Long-lived assets held and used	$ 3	$ —	$ —
Indefinite-lived tradenames	3	21	21
Total	$ 6	$ 21	$ 21

The table above excludes the reduction of $1 million of goodwill impairment charges mentioned in the above section *Goodwill* .

The fair values of the buildings and machinery and equipment were determined to be Level 3 under the fair value hierarchy and were estimated based on discussions with real estate brokers, review of comparable properties, if available, discussions with machinery and equipment brokers, dealer quotes and internal expertise related to the current marketplace conditions.

The Company's accounting and finance management determines the valuation policies and procedures for Level 3 fair value measurements and is responsible for the development and determination of unobservable inputs. The following table presents the fair value, valuation techniques and related unobservable inputs for these Level 3 measurements for the year ended December 31, 2018:

	Fair Value	Valuation Technique	Unobservable Input	Range
Indefinite-lived tradenames	$ 22	Relief-from-royalty	Royalty Rate	0.5% - 1.5%

__Other Charges__

For the year ended December 31, 2018, the Company recorded other charges of $2 million for multiemployer pension plan withdrawal obligations unrelated to facility closures. The total liability for the withdrawal obligations associated with the Company's decision to withdraw from certain multiemployer pension plans included in accrued liabilities and restructuring and multiemployer pension plan liabilities are $3 million and $19 million, respectively, at December 31, 2018. Refer to Note 14, *Retirement Plans* , for further discussion of multi-employer pension plans.

The Company's withdrawal liabilities could be affected by the financial stability of other employers participating in such plans and any decisions by those employers to withdraw from such plans in the future. While it is not possible to quantify the potential impact of future events or circumstances, reductions in other employers' participation in multiemployer pension plans, including certain plans from which the Company has previously withdrawn, could have a material effect on the Company's previously estimated withdrawal liabilities and consolidated statements of operations, balance sheets and cash flows.

Calendar Year 2017

	Employee Terminations	Other Restructuring Charges	Total Restructuring Charges	Impairment	Other Charges	Total
Magazines, Catalogs and Logistics	$ 6	$ 4	$ 10	$ 75	$ 1	$ 86
Book	5	2	7	5	3	15
Office Products	1	—	1	3	—	4
Other	1	1	2	5	—	7
Corporate	—	17	17	—	—	17
Total	$ 13	$ 24	$ 37	$ 88	$ 4	$ 129

Restructuring Charges

For the year ended December 31, 2017, the Company incurred employee-related restructuring charges of $13 million for an aggregate of 776 employees, substantially all of whom were terminated as of or prior to December 31, 2018. These charges primarily related to three facility closures in the Book segment, one facility closure in the Magazines, Catalogs and Logistics segment and the reorganization of certain business units. The Company also incurred other restructuring charges of $24 million primarily related to the exit from certain operations and facilities, as well as charges as a result of a terminated supplier contact.

Impairment Charges

For the year ended December 31, 2017, the Company recorded the following net impairment charges, which are explained further below:

	Property, Plant and Equipment	Other Intangible Assets	Goodwill	Total
Magazines, Catalogs and Logistics	$ 7	—	$ 68	$ 75
Book	—	5	—	5
Office Products	—	3	—	3
Other	—	—	5	5
Total	$ 7	$ 8	$ 73	$ 88

Property, Plant and Equipment

The net charges of $7 million primarily related to impairment of machinery and equipment in the Company's magazines and catalogs reporting unit, which is included in the Magazines, Catalogs and Logistics segment, resulting from general volume declines.

Other Intangible Assets - Indefinite-Lived Tradenames

The Company also recorded charges of $8 million for the impairment of certain acquired indefinite-lived tradename intangible assets, including $3 million in the Office Products segment and $5 million in the Book segment. The impairment of the indefinite-lived tradename intangible assets resulted from negative revenue trends experienced in recent years and lower expectations of future revenue to be derived from those tradenames. The impairment was determined using Level 3 inputs and estimated based on cash flow analyses, which included management's assumptions related to future revenues and profitability. After recording the impairment charges, remaining indefinite-lived tradenames in the Office Products and Book segments were $23 million and $1 million, respectively.

Goodwill

With respect to the goodwill impairment charges, as explained in Note 3, *Business Combinations and Disposition* , the Company completed several acquisitions during the year ended December 31, 2017, five of which were included in the Company's former magazines, catalogs and retail inserts reporting unit, which was part of the former Print segment. The goodwill arising from each acquisition was determined on a stand-alone basis for each particular transaction based on each transaction's individual facts and circumstances, in accordance with ASC 805, *Business Combinations* . Per the guidance in ASC 805, goodwill was recognized on each transaction given that the consideration transferred for each transaction was in excess of the net amounts of the identifiable assets acquired and the liabilities assumed. Furthermore, the consideration transferred, the identifiable assets acquired and the liabilities assumed were all measured at the acquisition-date fair value, which is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction, between market participants, at the acquisition date.

In accordance with ASC 350, *Intangibles — Goodwill and Other* , the Company is required to test its goodwill for impairment annually, or more often if there is an indication that goodwill might be impaired. For purposes of the goodwill impair ment test, goodwill is not tested based upon the individual transactions that gave rise to the goodwill, but rather based upon the reporting unit's total goodwill and the characteristics of the reporting unit in which the goodwill resides. Therefore, the level at which goodwill is tested for impairment is different from the level that originally created the goodwill. In the Company's case, the test is performed based upon the total carrying value of the former magazines, catalogs and retail inserts report ing unit and that former reporting unit's total implied fair value. Carrying value is determined based upon the net book value of assets and liabilities required for the operations of the former magazines, catalogs and retail inserts reporting unit, while fair value is determined based upon a discounted cash flows analysis of the former magazines, catalogs and retail inserts reporting unit. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss is recognized in an amount equ al to that excess, limited to the total amount of goodwill allocated to that reporting unit.

Prior to the acquisitions completed within the last twelve months, the former magazines, catalogs and retail inserts reporting unit had zero goodwill recorded, as goodwill associated with this reporting unit had been fully impaired in prior years. Given the historical valuations of the former magazines, catalogs and retail inserts reporting unit that have resulted in goodwill impairment in prior years, combined with the change in the composition of the carrying value of the former reporting unit due to the acquisitions completed as of September 30, 2017, the Company determined it necessary to perform an interim goodwill impairment review on this former reporting unit as of September 30, 2017.

As a result of the interim goodwill impairment test, and consistent with prior goodwill impairment tests, the former magazines, catalogs and retail inserts reporting unit's fair value continued to be at a value below its carrying value. This is primarily due to the negative revenue trends experienced in recent years that are only partially offset by the impact of the new acquisitions. As such, the Company recorded charges of $55 million to recognize the impairment of goodwill in this former reporting unit as of September 30, 2017. The goodwill impairment charges were determined using Level 3 inputs, including discounted cash flow analyses, comparable marketplace fair value data and management's assumptions.

For the quarter ended December 31, 2017, the Company completed the acquisition of the Clark Group that became part of the former magazines, catalogs and retail inserts reporting unit. Given the amount by which the carrying amount of the former reporting unit exceeded its fair value in the goodwill impairment test performed as of September 30, 2017, combined with the fact that management's assessment of the fair value did not materially change since that date, an additional goodwill impairment charge of $18 million was recorded in the period ended December 31, 2017, which represents all of the goodwill arising from the Clark Group acquisition and additional amounts related to acquisitions completed during the quarter ended September 30, 2017.

The total charge to recognize the impairment of goodwill in the former magazines, catalogs and retail inserts reporting unit was $73 million for 2017, resulting in zero goodwill associated with former the magazines, catalogs and retail inserts reporting unit as of December 31, 2017. Refer to Note 3, *Business Combinations and Disposition* , for a summary of these charges by reporting unit as of December 31, 2017.

Fair Value Measurement

The fair value as of the measurement date, net book value as of the end of the year and related impairment charge for assets measured at fair value on a nonrecurring basis subsequent to initial recognition during the year ended December 31, 2017 is disclosed below.

	Year Ended December 31, 2017		As of December 31, 2017
	Impairment Charge	**Fair Value Measurement (Level 3)**	**Net Book Value**
Long-lived assets held and used	$ 7	$ —	$ —
Goodwill	73	—	—
Indefinite-lived tradenames	8	23	23
Total	$ 88	$ 23	$ 23

The fair values of the buildings and machinery and equipment were determined to be Level 3 under the fair value hierarchy and were estimated based on discussions with real estate brokers, review of comparable properties, if available, discussions with machinery and equipment brokers, dealer quotes and internal expertise related to the current marketplace conditions.

The Company's accounting and finance management determines the valuation policies and procedures for Level 3 fair value measurements and is responsible for the development and determination of unobservable inputs. The following table presents the fair value, valuation techniques and related unobservable inputs for these Level 3 measurements for the year ended December 31, 2017:

	Fair Value	Valuation Technique	Unobservable Input	Range
Indefinite-lived tradenames	$ 24	Relief-from-royalty	Royalty Rate	0.5% - 1.5%

Other Charges

For the year ended December 31, 2017, the Company recorded other charges of $4 million for multiemployer pension plan withdrawal obligations unrelated to facility closures. The total liability for the withdrawal obligations associated with the Company's decision to withdraw from certain multiemployer pension plans included in accrued liabilities and restructuring and multiemployer pension plan liabilities are $6 million and $37 million, respectively, at December 31, 2017. Refer to Note 14, *Retirement Plans* , for further discussion of multi-employer pension plans.

Calendar Year 2016

	Employee Terminations	Other Restructuring Charges	Total Restructuring Charges	Impairment	Other Charges	Total
Magazines, Catalogs and Logistics	$ 3	$ —	$ 3	$ —	$ 1	$ 4
Book	1	3	4	—	2	6
Other	2	3	5	—	—	5
Corporate	2	1	3	—	—	3
Total	$ 8	$ 7	$ 15	$ —	$ 3	$ 18

Restructuring Charges

For the year ended December 31, 2016, the Company recorded net restructuring charges of $8 million for employee termination costs for an aggregate of 222 employees, substantially all of whom were terminated as of or prior to December 31, 2018. These charges primarily related to one facility closure in the Other grouping, the expected closure of another facility in the first quarter of 2017 in the Magazines, Catalogs and Logistics segment and the reorganization of certain operations. Additionally, the Company recorded lease termination and other restructuring charges of $7 million. The fair values of the buildings and machinery and equipment were determined to be Level 3 under the fair value hierarchy and were estimated based on discussions with real estate brokers, review of comparable properties, if available, discussions with machinery and equipment brokers, dealer quotes and internal expertise related to the current marketplace conditions.

Other Charges

For the year ended December 31, 2016, the Company recorded other charges of $3 million for multi-employer pension plan withdrawal obligations unrelated to facility closures. The total liability for the withdrawal obligations associated with the Company's decision to withdraw from certain multi-employer pension plans included in accrued liabilities and restructuring and multiemployer pension plan liabilities are $6 million and $39 million, respectively, at December 31, 2016. Refer to Note 14, *Retirement Plans* , for further discussion of multiemployer pension plans.

Restructuring Reserve

The restructuring reserve as of December 31, 2017 and 2018, and changes during the year ended December 31, 2018, were as follows:

	December 31, 2017	Restructuring Charges	Other	Cash Paid	December 31, 2018
Employee terminations	$ 8	$ 14	$ —	$ (14)	$ 8
Multiemployer pension plan withdrawal obligations	16	3	19	(6)	32
Other	2	8	—	(9)	1
Total	$ 26	$ 25	$ 19	$ (29)	$ 41

The current portion of restructuring reserves of $15 million at December 31, 2018 was included in accrued liabilities, while the long-term portion of $26 million, which primarily related to multi-employer pension plan withdrawal obligations related to facility closures, was included in restructuring and multiemployer pension plan liabilities at December 31, 2018.

During the three months ended March 31, 2018, the Company reclassified $19 million of multiemployer pension plan withdrawal obligations from non-restructuring liabilities to restructuring liabilities, of which $3 million and $16 million were recorded in the current and long-term portions of the reserves, respectively. The reclassification was primarily due to facility closures in the Magazines, Catalogs and Logistics and Book segments during the three months ended March 31, 2018.

The Company anticipates that payments associated with the employee terminations reflected in the above table will be substantially completed by December 31, 2019.

Payments on all of the Company's multiemployer pension plan withdrawal obligations are scheduled to be completed by 2034. Changes based on uncertainties in these estimated withdrawal obligations could affect the ultimate charges related to multiemployer pension plan withdrawals. Refer to Note 14 , *Retirement Plans,* for further discussion of multiemployer pension plans.

The restructuring liabilities classified as "other" primarily consisted of other facility closing costs.

The restructuring reserve as of December 31, 2017 and 2016, and changes during the year ended December 31, 2017, were as follows:

	December 31, 2016	Restructuring Charges	Cash Paid	December 31, 2017
Employee terminations	$ 8	$ 13	$ (13)	$ 8
Multiemployer pension plan withdrawal obligations	18	1	(3)	16
Other	2	18	(18)	2
Total	$ 28	$ 32	$ (34)	$ 26

The current portion of restructuring reserves of $14 million at December 31, 2017 was included in accrued liabilities, while the long-term portion of $12 million, which primarily related to multi-employer pension plan withdrawal obligations related to facility closures and lease termination costs, was included in restructuring and multiemployer pension plan liabilities at December 31, 2017.

Note 10. Accrued Liabilities

The components of the Company's accrued liabilities at December 31, 2018 and 2017 were as follows:

	2018	2017
Employee-related liabilities	$ 71	$ 87
Customer-related liabilities	38	40
Deferred revenue	15	33
Restructuring liabilities	15	14
Other	60	65
Total accrued liabilities	$ 199	$ 239

Employee-related liabilities consist primarily of payroll, employee benefits, workers' compensation, and incentive compensation. Incentive compensation accruals include amounts earned pursuant to the Company's primary employee incentive compensation plans. Customer-related liabilities include accruals for rebates, volume discounts and other customer discounts. Other accrued liabilities include miscellaneous operating accruals, other tax liabilities and accrued interest.

Note 11. Commitments and Contingencies

As of December 31, 2018, the Company had commitments of $8 million for severance payments related to employee restructuring activities. In addition, as of December 31, 2018, the Company had commitments of approximately $35 million for the purchase of property, plant and equipment related to incomplete projects. The Company also has contractual commitments of approximately $28 million for outsourced services, including professional, maintenance and other services.

Future minimum rental commitments under operating leases are as follows:

Year Ended December 31		Amount
2019	$	88
2020		60
2021		50
2022		37
2023		22
2024 and thereafter		50
Total	$	307

The Company has operating lease commitments, including those for vacated facilities, totaling $307 million and extending through various periods to 2028. There are minimum non-cancelable sublease rentals aggregating approximately $17 million related to the operating leases. The Company remains secondarily liable under these leases in the event that the sub-lessee defaults under the sublease terms. The Company does not believe that material payments will be required as a result of the secondary liability provisions of the primary lease agreements.

Rent expense for facilities in use and equipment was $58 million, $46 million and $39 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Litigation

The Company is subject to laws and regulations relating to the protection of the environment. The Company accrues for expenses associated with environmental remediation obligations when such amounts are probable and can be reasonably estimated. Such accruals are adjusted as new information develops or circumstances change and are generally not discounted. The Company has been designated as a potentially responsible party or has received claims in eleven active federal and state Superfund and other multiparty remediation sites. In addition to these sites, the Company may also have the obligation to remediate three other previously and currently owned facilities. At the Superfund sites, the Comprehensive Environmental Response, Compensation and Liability Act provides that the Company's liability could be joint and several, meaning that the Company could be required to pay an amount in excess of its proportionate share of the remediation costs.

The Company's understanding of the financial strength of other potentially responsible parties at the multiparty sites and of other liable parties at the previously owned facilities has been considered, where appropriate, in the determination of the Company's estimated liability. The Company established reserves, recorded in accrued liabilities and other noncurrent liabilities, that it believes are adequate to cover its share of the potential costs of remediation at each of the multiparty sites and the previously and currently owned facilities. It is not possible to quantify with certainty the potential impact of actions regarding environmental matters, particularly remediation and other compliance efforts that the Company may undertake in the future. However, in the opinion of management, compliance with the present environmental protection laws, before taking into account estimated recoveries from third parties, will not have a material effect on the Company's consolidated statements of operations, balance sheets and cash flows.

From time to time, the Company's cu stomers and others file voluntary petitions for reorganization under United States bankruptcy laws. In such cases, certain pre-petition payments received by the Company from these parties could be considered preference items and subject to return. In addi tion, the Company may be party to certain litigation arising in the ordinary course of business. Management believes that the final resolution of these preference items and litigation will not have a material effect on the Company's consolidated statements of operations, balance sheets and cash flows.

Merger Litigation

Three substantially similar actions have been filed by an alleged LSC stockholder against some or all of LSC, the directors of LSC, Quad/Graphics and merger sub. On December 21, 2018, an action captioned Joe Waters v. LSC, et al. , No. 1:18-cv-08419, was filed in the U.S. District Court for the Northern District of Illinois against LSC, the directors of LSC, Quad/Graphics and merger sub on behalf of a putative class of LSC stockholders. On January 2, 2019, an action captioned David Wefer v. LSC, et al. , No. 1:19-cv-00007, was filed in the U.S. District Court for the Southern District of New York against LSC and the directors of LSC. On January 7, 2019, an action captioned Patrick Plumley v. LSC, et al. , No. 1:19-cv-00030-UNA, was filed in the U.S. District Court for the District of Delaware against LSC, the directors of LSC, Quad/Graphics and merger sub on behalf of a putative class of LSC stockholders. The lawsuits include similar allegations challenging the adequacy or completeness of the disclosures to LSC stockholders made in the initial version of this joint proxy statement/prospectus filed on December 11, 2018 regarding the merger, and the complaints assert claims under Section 14(a) and 20(a) of the Exchange Act against some or all of LSC, the members of the LSC board and Quad/Graphics. The complaints allege, among other things, that the initial version of this joint proxy statement/prospectus filed on December 11, 2018 misstated or omitted material information regarding the financial projections prepared by LSC management, the value of shares of LSC common stock and the financial analyses performed by LSC's financial advisor and the sales process leading up to the merger. The complaints seek injunctive relief, including to enjoin the merger, damages in the event the merger is consummated and an award of attorneys' fees, in addition to other relief.

Note 12. Debt

The Company's debt at December 31, 2018 and 2017 consisted of the following:

	2018	2017
Borrowings under the Revolving Credit Facility (a)	$ 64	$ 75
Term Loan Facility due September 30, 2022 (b)	260	306
8.75% Senior Secured Notes due October 15, 2023	450	450
Capital lease and other obligations	4	3
Unamortized debt issuance costs	(11)	(12)
Total debt	767	822
Less: current portion	(108)	(123)
Long-term debt	$ 659	$ 699

(a) The weighted-average interest rate on borrowings under the Company's Revolving Credit Facility was 5.19% and 4.47% during the year ended December 31, 2018 and 2017, respectively.
(b) The borrowings under the Term Loan Facility are subject to a variable interest rate. As of December 31, 2018 and 2017, the interest rate was 8.02% and 7.07%, respectively.

On September 30, 2016, the Company issued $450 million of Senior Secured Notes (the "Senior Notes").

On September 30, 2016 the Company entered into a credit agreement (the "Credit Agreement") that provides for (i) a senior secured term loan B facility in an aggregate principal amount of $375 million (the "Term Loan Facility") and (ii) a senior secured revolving credit facility in an aggregate principal amount of $400 million (the "Revolving Credit Facility"). The debt issuance costs and original issue discount are being amortized over the life of the facilities using the effective interest method.

The Credit Agreement is subject to a number of covenants, including, but not limited to, a minimum Interest Coverage Ratio and a Consolidated Leverage Ratio, as defined in and calculated pursuant to the Credit Agreement, that, in part, restrict the Company's ability to incur additional indebtedness, create liens, engage in mergers and consolidations, make restricted payments and dispose of certain assets. The Credit Agreement generally allows annual dividend payments of up to $50 million in the aggregate, though additional dividends may be allowed subject to certain conditions. Each of these covenants is subject to important exceptions and qualifications.

Credit Agreement

On December 20, 2018, the Company amended the Credit Agreement to, among other things, defer certain changes of the minimum Interest Coverage Ratio and the maximum Consolidated Leverage Ratio. As a result, the maximum Consolidated Leverage Ratio will be reduced to 3.00 to 1.00 with respect to any fiscal quarter ending on or after March 31, 2020, as opposed to March 31, 2019, as originally contemplated in the Credit Agreement. The minimum Interest Coverage Ratio will be increased to 3.50 to 1.00 with respect to any test period ending on or after March 31, 2020, as opposed to March 31, 2019, as originally contemplated in the Credit Agreement. Other terms, including the outstanding principal, maturity date and other debt covenants remain the same.

On November 17, 2017, the Company amended the Credit Agreement to reduce the interest rate for the Term Loan Facility by 50 basis points and the LIBOR "floor" was also reduced by 25 basis points. Other terms, including the outstanding principal, maturity date and debt covenants were not amended.

Select terms of the Term Loan Facility before and after the amendment include:

	Before Amendment	After Amendment
Interest rate (Company's option)	Base rate + 5.00%; or LIBOR + 6.00%	Base rate + 4.50%; or LIBOR + 5.50%
LIBOR floor	1.00%	0.75%
Amortization	\$13 million, first eight quarters; \$11 million quarterly thereafter (as of original effective date)	\$13 million, first eight quarters; \$11 million quarterly thereafter (as of original effective date)
Maturity	September 30, 2022	September 30, 2022

Under the terms of the Term Loan Facility, each of the syndicated lenders is deemed to have loaned a specific amount to the Company and has the right to repayment from the Company directly. Therefore, we concluded that the Term Loan Facility is a loan syndication under U.S. GAAP. As such, in order to determine whether the debt was modified or extinguished as a result of the amendment, we examined the amount of principal pre- and post-amendment by individual lender. As a result, we determined that \$65 million of outstanding principal had been extinguished as of November 17, 2017, even though the total outstanding principal amongst all lenders pre- and post-amendment remained unchanged.

Consequently, the amendment resulted in a pre-tax loss on debt extinguishment of \$3 million related to the unamortized discount and debt issuance costs attributable to the \$65 million of outstanding principal that had been considered extinguished. There was no net impact as of November 17, 2017 to cash and cash equivalents, total outstanding principal remained unchanged, and no cash was exchanged between the lenders and the Company (other than customary administrative fees).

On February 2, 2017, the Company paid in advance for the Term Loan Facility the full amount of required amortization payments, \$50 million, for the year ended December 31, 2017.

Additional Debt Issuances Information

The fair values of the Senior Notes and Term Loan Facility that were determined using the market approach based upon interest rates available to the Company for borrowings with similar terms and maturities, were determined to be Level 2 under the fair value hierarchy. The fair value of the Company's debt was greater than its book value by approximately \$22 million and \$20 million at December 31, 2018 and 2017, respectively.

As of December 31, 2018, the Company had \$51 million in outstanding letters of credit issued under the Revolving Credit Facility. As of December 31, 2018, the Company also had \$6 million in other uncommitted credit facilities, all of which were outside the U.S. (the "Other Facilities"). As of December 31, 2018, letters of credit and guarantees of \$2 million were issued and reduced availability under the Other Facilities. As of December 31, 2018, there were \$66 million of borrowings under the Revolving Credit Facility and the Other Facilities (the "Combined Facilities").

At December 31, 2018 , the future maturities of debt, including capitalized leases, were as follows:

	Amount
2019	$ 110
2020	43
2021	43
2022	136
2023	450
2024 and thereafter	—
Total (a)	$ 782

(a) Excludes unamortized debt issuance costs of $4 million and $6 million related to the Company's Term Loan Facility and 8.75% Senior Notes due October 15, 2023, respectively, and a discount of $5 million related to the Company's Term Loan Facility. These amounts do not represent contractual obligations with a fixed amount or maturity date.

The following table summarizes interest expense included in the consolidated and combined statements of operations:

	2018	2017	2016
Interest incurred	$ 82	$ 73	$ 19
Less: interest income	(2)	(1)	(1)
Interest expense-net	$ 80	$ 72	$ 18

Interest paid, net of interest received, was $76 million, $69 million and $7 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Note 13. Earnings Per Share

On May 31, 2018, the Company completed the repurchase approved by the Board of Directors of 1.6 million shares of common stock for a total cost of $20 million. During the year ended December 31, 2017, the Company issued approximately 1.0 million shares of common stock in conjunction with the Fairrington acquisition and did not purchase shares of common stock. During the years ended December 31, 2018 and 2017, a de minimis amount of shares were withheld from employees for tax liabilities upon vesting of equity awards.

Basic earnings per share ("EPS") is calculated by dividing net earnings attributable to the Company's stockholders by the weighted average number of common shares outstanding for the period. In computing diluted EPS, basic EPS is adjusted for the assumed issuance of all potentially dilutive share-based awards, including stock options, restricted stock, RSUs, and PSUs. The computations of basic and diluted EPS for periods prior to the separation were calculated using the shares distributed and retained by RRD on October 1, 2016. The same number of shares was used to calculate basic and diluted earnings per share since there were no LSC Communications equity awards outstanding prior to the separation.

The following table shows the calculation of basic and diluted EPS, as well as a reconciliation of basic shares to diluted shares:

	2018	2017	2016
Net (loss) earnings per common share:			
Basic	$ (0.67)	$ (1.69)	$ 3.25
Diluted	$ (0.67)	$ (1.69)	$ 3.23
Dividends declared per common share	$ 1.04	$ 1.00	$ 0.25
Numerator:			
Net (loss) income	$ (23)	$ (57)	$ 106
Denominator:			
Weighted average number of common shares outstanding	33.8	33.8	32.5
Dilutive options and awards	—	—	0.3
Diluted weighted average number of common shares outstanding	33.8	33.8	32.8

Note 14. Retirement Plans

Defined Benefits Overview

The Company is the sole sponsor of certain defined benefit pension plans that are included in the consolidated balance sheets as of December 31, 2018 and 2017. The Company's primary single employer defined benefit pension plans are frozen. No new employees will be permitted to enter these plans and participants will earn no additional benefits. The assets and certain obligations of the defined benefit pension plans includes plans qualified under Section 401(a) of the Internal Revenue Code of 1986, as amended (the "Qualified Plan") and related non-qualified benefits (the "Non-Qualified Plan"). The Qualified Plan will be funded in conformity with the applicable government regulations, such that the Company from time to time contributes at least the minimum amount required using actuarial cost methods and assumptions acceptable under government regulations. The Non-Qualified Plan is unfunded, and the Company pays retiree benefits as they become due.

The Company engages outside actuaries to assist in the determination of the obligations and costs under these plans. The Company records annual income and expense amounts relating to its pension plans based on calculations that include various actuarial assumptions such as discount rates, mortality, assumed rate of return, compensation increases, and turnover rates. The Company reviews its actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends when it is deemed appropriate to do so. The effect of modifications on the value of plan obligations and assets is recognized immediately within other comprehensive income (loss) and amortized into investment and other (income)-net over future periods. The Company believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience, market conditions and input from its actuaries and investment advisors.

The benefit plan obligations are calculated using generally accepted actuarial methods and are measured as of December 31. Prior to the plan freezes, actuarial gains and losses were amortized using the corridor method over the average remaining service life of active plan participants. Actuarial gains and losses for frozen plans are amortized using the corridor method over the average remaining expected life of active plan participants.

In the first quarter of 2019, the Company completed a partial settlement of its retirement benefit obligations by purchasing a group annuity contract for certain retirees and beneficiaries from a third-party insurance company. As a result, the Company's pension assets and liabilities are required to be remeasured as of the settlement date. As of the remeasurement date, the reduction in the reported pension obligation for the participants under the annuity contract was approximately $477 million, and the reduction in plan assets was approximately $466 million. The Company expects to record a non-cash settlement charge in the range of approximately $130 million to $140 million in the first quarter of 2019. This charge results from the recognition in earnings of a portion of the actuarial losses recorded in accumulated other comprehensive loss based on the proportion of the obligation settled. The settlement accounting is expected be completed in the first quarter of 2019. In 2019, the Company expects annual non-cash net pension income to decrease by approximately $13 million to $35 million, due to the reduction in pension trust assets related to the transaction combined with a lower expected return on plan assets due to a change in asset allocation as part of the Company's pension de-risking strategy.

The Company recorded non-cash settlement charges of $1 million in selling, general and administrative expenses in the three months ended June 30, 2016 in connection with settlement payments from an early buyout of certain former employees related to the 2014 acquisition of Esselte Corporation. These charges resulted from the recognition in earnings of a portion of the actuarial losses recorded in accumulated other comprehensive loss based on the proportion of the obligation settled.

At the separation date, the Company assumed and recorded certain pension obligations and plan assets in single employer plans for the Company's employees and certain former employees and retirees of RRD. The Company recorded a net benefit plan obligation of $358 million as of October 1, 2016 related to these plans. Additionally, the Company's United Kingdom pension plan was transferred to RRD at the separation date, and as a result, the Company recorded a reduction in its net benefit plan asset of $7 million as of October 1, 2016.

Prior to the separation, for RRD sponsored defined benefit and post-employment plans, the Company recorded net pension and postretirement income of $28 million for the nine months ended September 30, 2016. This amount is reflected all in investment and other (income)-net in the consolidated and combined statements of operations.

The Company made contributions totaling $6 million to its pension plans during the year ended December 31, 2018. Based on the plans' regulatory funded status, there are no required contributions for the Company's U.S. Qualified Plan in 2019. The required contributions in 2019, primarily for the Non-Qualified Plan, are expected to be approximately $6 million to its pension plans.

Defined Benefit Plans – Financial Informati on

Financial information regarding the Qualified, Non-Qualified and International plans is shown below:

	2018			2017			2016		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Interest cost	$ 84	$ 3	$ 87	$ 86	$ 3	$ 89	$ 24	$ 6	$ 30
Expected return on plan assets	(155)	—	(155)	(153)	—	(153)	(48)	(7)	(55)
Amortization of actuarial loss	19	1	20	17	1	18	6	1	7
Settlement	—	—	—	—	—	—	1	—	1
Net periodic benefit (income) expense	$ (52)	$ 4	$ (48)	$ (50)	$ 4	$ (46)	$ (17)	$ —	$ (17)
Weighted average assumption used to calculate net periodic benefit (income) expense:									
Discount rate	3.5%	3.8%	3.5%	4.3%	4.3%	4.3%	3.8%	3.8%	3.8%
Expected return on plan assets	6.7%	7.8%	6.7%	6.9%	7.9%	6.9%	7.2%	7.2%	7.2%

The accumulated benefit obligation for the LSC Communications sponsored defined benefit Qualified Plan was $2,318 million and $2,572 million at December 31, 2018 and 2017, respectively. The accumulated benefit obligation for the LSC Communications sponsored defined benefit Non-Qualified and international pension plans was $86 million and $94 million at December 31, 2018 and 2017, respectively.

	2018			2017		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Benefit obligation at beginning of year	$ 2,572	$ 95	$ 2,667	$ 2,439	$ 92	$ 2,531
Interest cost	84	3	87	86	3	89
Actuarial loss (gain)	(211)	(6)	(217)	169	5	174
Benefits paid	(127)	(4)	(131)	(122)	(5)	(127)
Benefit obligation at end of year	$ 2,318	$ 88	$ 2,406	$ 2,572	$ 95	$ 2,667
Fair value of plan assets at beginning of year	$ 2,478	$ 2	$ 2,480	$ 2,249	$ 2	$ 2,251
Actual return on assets	(86)	—	(86)	357	—	357
Employer contributions	—	6	6	—	6	6
Foreign currency translation	—	—	—	—	(1)	(1)
Separation-related adjustment	—	—	—	(6)	—	(6)
Benefits paid	(127)	(4)	(131)	(122)	(5)	(127)
Fair value of plan assets at end of year	$ 2,265	4	$ 2,269	$ 2,478	$ 2	$ 2,480
Unfunded status at end of year	$ (53)	$ (84)	$ (137)	$ (94)	$ (93)	$ (187)

	2018			2017		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Accrued benefit cost (included in accrued liabilities)	—	(5)	(5)	—	(5)	(5)
Pension liabilities	(53)	(79)	(132)	(94)	(88)	(182)
Net liabilities recognized in the consolidated balance sheets	$ (53)	$ (84)	$ (137)	$ (94)	$ (93)	$ (187)

The amounts included in accumulated other comprehensive loss in the consolidated balance sheets, excluding tax effects, that have not been recognized as components of net periodic cost at December 31, 2018 and 2017 were as follows:

	2018			2017		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Accumulated other comprehensive loss						
Net actuarial loss	$ (686)	$ (22)	$ (708)	$ (674)	$ (29)	$ (703)
Total	$ (686)	$ (22)	$ (708)	$ (674)	$ (29)	$ (703)

The pre-tax amounts recognized in other comprehensive loss in 2018 as components of net periodic costs were as follows:

	Qualified	Non-Qualified & International	Total
Amortization of:			
Net actuarial loss	$ 19	$ 1	$ 20
Amounts arising during the period:			
Net actuarial (loss) gain	(31)	6	(25)
Total	$ (12)	$ 7	$ (5)

Actuarial gains and losses in excess of 10.0% of the greater of the projected benefit obligation or the market-related value of plan assets were recognized as a component of net periodic benefit costs over the average remaining service period of a plan's active employees. Unrecognized prior service costs or credits are also recognized as a component of net periodic benefit cost over the average remaining service period of a plan's active employees. The amounts in accumulated other comprehensive loss that are expected to be recognized as components of net periodic benefit costs in 2019 are shown below. They are based on balances as of December 31, 2018 and do not include the impact of the partial settlement.

	Qualified	Non-Qualified & International	Total
Amortization of:			
Net actuarial loss	$ 12	$ 1	$ 13

The weighted-average assumptions used to determine the net benefit obligation at the measurement date were as follows:

	2018			2017		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Discount rate	4.4%	4.5%	4.4%	3.7%	3.8%	3.7%

The following table provides a summary of pension plans with projected benefit obligations in excess of plan assets as of December 31, 2018 and 2017:

	2018			2017		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Projected benefit obligation	$ 2,318	$ 85	$ 2,403	$ 2,572	$ 95	$ 2,667
Fair value of plan assets	2,265	—	2,265	2,478	2	$ 2,480

The following table provides a summary of pension plans with accumulated benefit obligations in excess of plan assets as of December 31, 2018 and 2017:

	2018			2017		
	Qualified	Non-Qualified & International	Total	Qualified	Non-Qualified & International	Total
Accumulated benefit obligation	$ 2,318	$ 85	$ 2,403	$ 2,572	$ 94	$ 2,666
Fair value of plan assets	2,265	—	2,265	2,478	2	2,480

The Company determines its assumption for the discount rate to be used for purposes of computing annual service and interest costs based on an index of high-quality corporate bond yields and matched-funding yield curve analysis as of the measurement date.

Benefit payments are expected to be paid as follows:

	Qualified	Non-Qualified & International	Total
2019	$ 130	$ 5	$ 135
2020	134	6	140
2021	136	6	142
2022	141	6	147
2023	144	6	150
2024-2028	743	30	773

Defined Benefit Plans - Plan Assets

The Company's overall inv estment approach for its U.S. Qualified Plan is to reduce the risk of significant decreases in the plan's funded status by allocating a larger portion of the plan's assets to investments expected to hedge the impact of interest rate risks on the plan's obligation. Over time, the target asset allocation percentage for the pension plan is expected to decrease for equity and other "return seeking" investments and increase for fixed income and other "hedging" investments. The assumed long-term rate of return for plan assets, which is determined annually, is likely to decrease as the asset allocation shifts over time. The expected long-term rate of return for plan assets is based upon many factors including asset allocation, historical asset returns, current and expected future market conditions, risk and active management premiums. The target asset allocation percentage as of December 31, 2018 for the U.S. Qualified Plan was approximately 40.0% for return seeking investments and approximately 60.0% for hedging investments. Management reviews the performance of its investments on a quarterly basis.

The Company segregated its plan assets by the following major categories and levels for determining their fair value as of December 31, 2018 and 2017:

Cash and cash equivalents —Carrying value approximates fair value. As such, these assets were classified as Level 1. The Company also invests in certain short-term investments that are valued using the amortized cost method. As such, these assets were classified as Level 2.

Equity— The value of individual equity securities was based on quoted prices in active markets. As such, these assets are classified as Level 1.

Fixed income— Fixed income securities are typically priced based on a valuation model rather than a last trade basis and are not exchange-traded. These valuation models involve utilizing dealer quotes, analyzing market information, estimating prepayment speeds and evaluating underlying collateral. Accordingly, the Company classified these fixed in come securities as Level 2. Fixed income securities also include investments in various asset-backed securities that are part of a government sponsored program. The prices of these asset-backed securities were obtained by independent third parties using mu lti-dimensional, collateral specific prepayments tables. Inputs include monthly payment information and collateral performance. As the values of these assets was determined based on models incorporating observable inputs, these assets were classified as Le vel 2. Additionally, this category includes underlying securities in trust owned life insurance policies that are invested in certain fixed income securities. These investments are not quoted on active markets; therefore, they are classified as Level 2.

Derivatives and other— This category includes investments in commodity and structured credit funds that are not quoted on active markets; therefore, they are classified as Level 2.

Investments measured at NAV as a practical expedient— The Company invests in certain equity, fixed income, real estate and private equity funds that are valued at calculated NAV per share. In accordance with FASB guidance investments that are measured at fair value using the NAV per share as a practical expedient have not been classified in the fair value hierarchy.

The valuation methodologies described above may generate a fair value calculation that may not be indicative of net realizable value or future fair values. While the Company believes the valuation methodologies used are appropriate, the use of different methodologies or assumptions in calculating fair value could result in different amounts. The Company invests in various assets in which valuation is determined by NAV. The Company believes that the NAV is representative of fair value at the reporting date, as there are no significant restrictions on redemption of these investments or other reasons to indicate that the investment would be redeemed at an amount different than the NAV.

The fair values of the Company's pension plan assets at December 31, 2018 and 2017, by asset category were as follows:

	December 31, 2018			December 31, 2017		
Asset Category	**Level 1**	**Level 2**	**Total**	**Level 1**	**Level 2**	**Total**
Cash and cash equivalents	$ 54	$ 17	$ 71	$ 52	$ 30	$ 82
Equity	343	—	343	636	—	636
Fixed income	—	1,389	1,389	—	1,062	1,062
Derivatives and other	—	1	1	—	1	1
Investments measurement at NAV as a practical expedient	—	—	465	—	—	699
Total	$ 397	$ 1,407	$ 2,269	$ 688	$ 1,093	$ 2,480

Other Plans

Employer 401(k) Savings Plan— Effective September 2, 2016, LSC Communications initiated its own 401(k) plan. Under the LSC Savings Plan (the "Plan"), eligible employees have the option to contribute a percentage of eligible compensation on both a before-tax and after-tax basis. Effective January 1, 2017, LSC Communications amended the Plan to provide a company match equal to $0.50 of every pre-tax and Roth 401(k) dollar a participating employee contributes to the Plan on up to the first 3.0% of such participant's pay.

Multiemployer Pension Plans —Multiemployer plans receive contributions from two or more unrelated employers pursuant to one or more collective bargaining agreements and the assets contributed by one employer may be used to fund the benefits of all employees covered within the plan. The risk and level of uncertainty related to participating in these multiemployer pension plans differs significantly from the risk associated with the Company-sponsored defined benefit plans. For example, investment decisions are made by parties unrelated to the Company and the financial stability of other employers participating in a plan may affect the Company's obligations under the plan.

During the years ended December 31, 2018, 2017 and 2016, the Company recorded restructuring, impairment and other charges relating to multiemployer pension plan withdrawal obligations of:

Year Ended December 31,	Unrelated to Facility Closures	Related to Facility Closures	Total
2018	$ 2	$ 3	$ 5
2017	$ 4	$ 1	$ 5
2016	$ 3	$ 2	$ 5

Refer to Note 9 *, Restructuring, Impairment and Other Charges,* for further details of charges related to complete or partial multiemployer pension plan withdrawal liabilities recognized in the consolidated and combined statements of operations.

The Company's withdrawal liabilities could be affected by the financial stability of other employers participating in the plans and any decisions by those employers to withdraw from the plans in the future. While it is not possible to quantify the potential impact of future events or circumstances, reductions in other employers' participation in multiemployer pension plans, including certain plans from which the Company has previously withdrawn, could have a material impact on the Company's previously estimated withdrawal liabilities, may affect consolidated and combined statements of operations, balance sheets or cash flows.

As a result of the acquisition of Courier, the Company participates in two multiemployer pension plans, one of which the Company's contributions are over 85% of the total plan contributions. Both plans are estimated to be underfunded and have a red zone status, designated as a result of low contribution funding levels, under the Pension Protection Act.

During the years ended December 31, 2018, 2017 and 2016, the Company made de minimis contributions to these multiemployer pension plans and other plans from which the Company has completely withdrawn as of December 31, 2018.

Note 15. Income Taxes

U.S. Tax Cuts and Jobs Act ("Tax Act")

The Tax Act enacted on December 22, 2017 introduced significant changes to U.S. federal income tax law. Effective in 2018, the Tax Act reduced the U.S. federal corporate tax rate from 35.0% to 21.0% and created new taxes on certain foreign-sourced earnings and certain related-party payments, which are referred to as the global intangible low-taxed income ("GILTI") tax and the base erosion anti-abuse tax, respectively. In addition, in 2017, the Company was subject to a one-time transition tax on accumulated foreign subsidiary earnings not previously subject to U.S. federal income tax.

The SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") to address the application of U.S. GAAP in situations when a registrant did not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. The Company recognized provisional tax impacts related to the deemed repatriated earnings and the revaluation of deferred tax assets and liabilities in its consolidated financial statements for the year ended December 31, 2017. Adjustments made to the provisional amounts allowed under SAB 118 were identified and recorded as discrete adjustments during the year ended December 31, 2018. The accounting was completed in the fourth quarter of 2018 and the adjustments are as follows:

- **Transition tax.** A one-time transition tax on the deemed repatriation of post-1986 undistributed earnings of foreign subsidiaries. As a result of this one-time deemed repatriation, the Company recorded a provisional tax expense of $16 million during the fourth quarter of 2017. The final transition tax expense was $17 million. The additional $1 million was recorded during the fourth quarter of 2018.

- **Remeasurement of deferred taxes.** A reduction in the U.S. federal corporate tax rate from a maximum of 35.0% to a flat rate of 21.0% beginning in 2018. The Company recorded a one-time net provisional tax expense of $8 million as a result of the revaluation of the Company's deferred tax assets and liabilities to reflect the impact of the lower future U.S. federal corporate tax rates. Upon the filing of the 2017 tax returns, the final tax expense was $9 million. The additional $1 million was recorded during the fourth quarter of 2018.

- **Taxation of certain GILTI entities beginning in 2018.** The Company has the ability to determine its policy election with respect to whether to record deferred taxes for basis differences expected to reverse as a result of the GILTI provision in future years, or in the period in which the tax is incurred. The Company determined its policy is to record taxes in the period in which they are incurred.

Prior to the enactment of the Tax Act, the Company treated the undistributed earnings from foreign subsidiaries as indefinitely reinvested. The Tax Act imposed a mandatory transition tax on deferred foreign earnings and generally eliminated U.S. tax on foreign subsidiary distributions to the U.S. Accordingly, the Company has recognized the tax consequences of the Tax Act on all foreign unremitted earnings. To the extent there is cash available, management has no specific plans to indefinitely reinvest the unremitted earnings of our foreign subsidiaries as of the balance sheet date. As such, a withholding tax accrual has been recorded where appropriate and is not significant. The Company has not provided for deferred taxes on outside basis differences in our investments in our foreign subsidiaries that are unrelated to unremitted earnings as these basis differences will be indefinitely reinvested. A determination of the unrecognized deferred taxes related to these other components of our outstanding basis differences is not practicable to calculate.

2018 Disposition

As described in Note 3, *Business Combinations and Disposition* , the Company completed the sale of its European printing business on September 28, 2018. The 2018 tax provision reflects the impact of the sale which includes the elimination of tax balances related to the sold entities. A $25 million non-cash provision was recorded primarily for the write-off of a deferred tax asset associated with the entities disposed. As part of the write-off, tax carryforwards of $125 million and the associated valuation allowances of $108 million were disposed of as part of the sale.

Income tax expense (benefit) information

Income taxes have been based on the following components of earnings from operations before income taxes for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
U.S.	$ (18)	$ (71)	$ 129
Foreign	28	27	28
Total	$ 10	$ (44)	$ 157

Prior to the separation, in the Company's combined financial statements, income tax expense and deferred tax balances were calculated on a separate return basis, although with respect to certain entities, the Company's operations have historically been included in the tax returns filed by the respective RRD entities of which the Company's business was a part.

The components of income tax expense (benefit) from operations for the years ended December 31, 2018, 2017 and 2016 were as follows:

	2018	2017	2016
Current			
U.S. federal	$ 4	$ 20	$ 54
U.S. state and local	1	1	10
Foreign	7	7	5
Current income tax expense	12	28	69
Deferred			
U.S. federal	(3)	(11)	(17)
U.S. state and local	(2)	(4)	(3)
Foreign	26	—	2
Deferred income tax expense (benefit)	21	(15)	(18)
Income tax expense	$ 33	$ 13	$ 51

Refer to Note 16, *Comprehensive Income* , for details of the income tax expense or benefit allocated to each component of other comprehensive loss.

The following table outlines the reconciliation of differences between the Fed eral statutory tax rate and the Company's effective income tax rate:

	2018	2017	2016
Federal statutory tax rate	21.0%	35.0%	35.0%
Disposition of European printing business	242.4	—	—
Non-deductible share-based compensation	11.4	(8.9)	—
Foreign tax rate differential	9.6	6.5	(1.4)
Impact of the Tax Act			
Transition tax	9.0	(36.2)	—
Deferred tax effects	4.4	(19.2)	—
Section 162(m) limitation	8.2	(5.1)	0.3
International investment tax credit	6.2	25.9	(1.6)
Fringe benefits disallowance	4.5	—	—
Meals and entertainment disallowance	4.4	(1.3)	0.1
Withholding taxes	3.2	—	—
Impairment charges	1.3	(21.8)	—
Domestic manufacturing deduction	—	1.3	(3.1)
Change in valuation allowances	(5.0)	(22.6)	0.9
State and local income taxes, net of U.S. federal income tax benefit	(12.0)	4.0	3.1
Other	10.8	11.9	(0.8)
Effective income tax rate	319.4%	(30.5%)	32.5%

Deferred income taxes

The significant deferred tax assets and liabilities at December 31, 2018 and 2017 were as follows:

	2018	2017
Deferred tax assets:		
Pension plan liabilities	$ 41	$ 58
Accrued liabilities	35	33
Net operating losses and other tax carryforwards	17	138
Interest expense carryforward	15	—
Foreign depreciation	6	13
Other	3	4
Total deferred tax assets	117	246
Valuation allowances	(11)	(115)
Net deferred tax assets	$ 106	$ 131
Deferred tax liabilities:		
Accelerated depreciation	$ (38)	$ (40)
Other intangible assets	(25)	(30)
Inventories	(7)	(6)
Other	(9)	(5)
Total deferred tax liabilities	(79)	(81)
Net deferred tax assets	$ 27	$ 50

Transactions affecting the valuation allowances on deferred tax assets during t he years ended December 31, 2018, 2017 and 2016 were as follows:

	2018	2017	2016
Balance, beginning of year	$ 115	$ 87	$ 106
Current year expense-net	—	9	1
Transfer of U.K. entity to parent company	—	—	(7)
Disposition of European printing business	(108)	—	—
Foreign exchange and other	4	19	(13)
Balance, end of year	$ 11	$ 115	$ 87

As of December 31, 2018, the Company had domestic and foreign net operating loss deferred tax assets and other tax carryforwards of approximately $17 million and $0 million ($7 million and $131 million, respectively, at December 31, 2017), of which $10 million expires between 2019 and 2028. Limitations on the utilization of these tax assets may apply. The Company has provided valuation allowances to reduce the carrying value of certain deferred tax assets, as management has concluded that, based on the weight of available evidence, it is more likely than not that the deferred tax assets will not be fully realized.

Cash payments for income taxes were $11 million, $36 million and $14 million during the years ended December 31, 2018, 2017 and 2016, respectively. There were no amounts settled with RRD for 2018 and 2017. Total amounts settled with RRD were $57 million for 2016. Cash refunds for income taxes were $10 million, a de minimis amount and $3 million during the years ended December 31, 2018, 2017 and 2016, respectively.

Uncertain tax positions

During the year ended December 31, 2016, the entire $5 million balance of unrecognized tax benefits was settled. There have been no additional unrecognized tax benefits recorded for the years ended December 31, 2018 and 2017.

The Company classifies interest expense and any related penalties related to income tax uncertainties as a component of income tax expense. There was no interest expense, net of tax benefits, related to tax uncertainties recognized in the consolidated and combined statements of operations for the years ended December 31, 2018, 2017 and 2016. No benefits were recognized for the years ended December 31, 2018, 2017 and 2016 from the reversal of accrued penalties. There was no interest accrued related to income tax uncertainties at December 31, 2018 and 2017. There were no accrued penalties related to income tax uncertainties for the years ended December 31, 2018, 2017 and 2016.

The Company has tax years from 2012 that remain open and subject to examination by the IRS, certain state taxing authorities or certain foreign tax jurisdictions.

Note 1 6 . Comprehensive Income

The following table summarizes the change in accumulated other comprehensive loss by component for the years ended December 31, 2018, 2017 and 2016.

	Pension Plan Cost	Translation Adjustments	Total
Balance at December 31, 2015	$ (46)	$ (159)	$ (205)
Other comprehensive income before reclassifications	29	5	34
Amounts reclassified from accumulated other comprehensive loss	6	—	6
Transfer of pension plan from parent company, net	(495)	—	(495)
Transfer of U.K. entity to parent company, net	44	85	129
Net change in accumulated other comprehensive loss	(416)	90	(326)
Balance at December 31, 2016	$ (462)	$ (69)	$ (531)
Other comprehensive income before reclassifications	23	21	44
Amounts reclassified from accumulated other comprehensive loss	11	—	11
Net change in accumulated other comprehensive loss	34	21	55
Balance at December 31, 2017	$ (428)	$ (48)	$ (476)
Other comprehensive loss before reclassifications	(19)	(7)	(26)
Amounts reclassified from accumulated other comprehensive loss	15	—	15
Reclassification to accumulated deficit	(97)	—	(97)
Net change in accumulated other comprehensive loss	(101)	(7)	(108)
Balance at December 31, 2018	$ (529)	$ (55)	$ (584)

The Company adopted ASU 2018-02 "Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income ("ASU 2018-02") in the first quarter of 2018. As a result of applying this standard in the period of adoption, the Company reclassified $97 million relating to the change in tax rate from accumulated other comprehensive loss to accumulated deficit in the Company's consolidated balance sheet during the three months ended March 31, 2018. ASU 2018-02 eliminates the stranded tax effects resulting from the Tax Act and will improve the usefulness of information reported to financial statement users.

Refer to the statements of comprehensive income for the components of comprehensive income for the years ended December 31, 2018, 2017 and 2016.

Reclassifications from accumulated other comprehensive loss for the years ended December 31, 2018, 2017 and 2016 were as follows:

	2018	2017	2016
Amortization of pension plan cost:			
Net actuarial loss (a)	$ 20	$ 18	$ 7
Settlement	—	—	1
Reclassifications before tax	20	18	8
Income tax expense	5	7	2
Reclassifications, net of tax	$ 15	$ 11	$ 6

(a) These accumulated other comprehensive income components are included in the calculation of net periodic pension benefits plan (income) expense that is recognized all in investment and other (income)-net in the consolidated and combined statements of operations (refer to Note 14, *Retirement Plans*).

Note 1 7 . Stock and Incentive Programs

General Terms of the Awards

The Company's employees participate in the Company's 2016 Performance Incentive Plan (the "2016 PIP"). Under the 2016 PIP, the Company may grant cash or bonus awards, stock options, stock appreciation rights, restricted stock awards ("RSAs"), restricted stock units ("RSUs"), performance awards or combinations thereof to certain officers, directors and key employees. The Human Resources Committee of the Company's Board of Directors has discretion to establish the terms and conditions for grants, including the number of shares, vesting and required service or other performance criteria. The maximum term of any award under the 2016 PIP is ten years. Options generally expire ten years from the date of grant or five years after the date of retirement, whichever is earlier.

The rights granted to the recipient of RSAs, RSUs and performance restricted stock ("PRS") generally accrue ratably over the restriction or vesting period, which is generally three years. RSUs and RSAs are subject to forfeiture upon termination of employment prior to vesting, subject in some cases to early vesting upon specified events, including death or permanent disability of the grantee, termination of the grantee's employment under certain circumstances or a change in control of the Company. Compensation expense is based on the fair market value of the awards on the date of grant expensed ratably over the periods during which restrictions lapse.

Prior to the separation, RRD maintained an incentive stock program for certain individuals, including the Company's employees. A portion of the Company's employees participated in RRD's non-qualified stock options, RSUs and performance share units ("PSUs") programs. Share based compensation expense included expense attributable to the Company based on the award terms previously granted to the Company's employees and an allocation of compensation expense associated with RRD's corporate and shared functional employees. As the share-based compensation plans were RRD's plans, the amounts were recognized through net parent company investment on the combined balance sheets. In periods after the separation, the Company records share-based compensation expense relating to LSC Communications, RRD and Donnelley Financial awards held by its employees, officers and directors.

In connection with the separation, outstanding RRD stock options, RSUs and PSUs previously issued under RRD's incentive stock program were adjusted and converted into new LSC Communications stock-based awards or a basket of LSC Communications, RRD and Donnelley Financial stock-based awards using a formula designed to preserve the intrinsic value and fair value of the awards immediately prior to the separation.

At the separation date, outstanding RRD options related to the 2009, 2010, 2011, and 2012 grants were modified and converted into stock options in all three companies at a conversion rate outlined in the separation and distribution agreement. Outstanding RRD RSUs granted in 2013 and 2014 were modified and converted into RSUs in all three companies as outlined in the separation and distribution agreement. Outstanding RRD RSUs related to 2015 and 2016 grant dates were converted into RSUs in the company that the grantees were employed by at the separation date.

Modifications were made to the RRD PSUs so that as of the separation date, the performance period for the 2014 and 2015 PSU grants ended. The applicable performance was measured as of the separation date against revised cumulative free cash flow targets approved by the RRD Board of Directors. The 2014 PSUs converted into RSUs in all three companies in accordance with the separation and distribution agreement. The 2015 PSUs converted into RSUs in the company that the grantees were employed by at the separation date.

Share-Based Compensation Expense

Total compensation expense related to all share based compensation plans for the Company's employees, officers and directors was $12 million, $13 million and $8 million for the years ended December 31, 2018, 2017 and 2016, respectively. The expense in 2016 includes $5 million of expense allocated from RRD prior to the separation. There were net tax benefits of $1 million, $2 million and $3 million, respectively, for the years ended December 31, 2018, 2017 and 2016, respectively.

Stock Options

There was no significant activity related to stock options during the year December 31, 2018.

Restricted Stock Units

A summary of the Company's RSU activity for LSC Communications, RRD and Donnelley Financial employees, officers and directors as of December 31, 2017 and 2018, and changes during the year ended December 31, 2018 is presented below.

	Shares (thousands)	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2017	704	$ 28.64
Granted	460	12.34
Vested	(219)	33.25
Forfeited	(48)	19.27
Nonvested at December 31, 2018	897	$ 19.65

During the year ended December 31, 2018, 459,855 RSUs were granted to certain executive officers and senior management. The shares are subject to time-based vesting and will cliff vest on March 2, 2021. As of December 31, 2018, the total potential payout for the awards granted during the year ended December 31, 2018 is 433,385 RSUs. The fair value of these awards was determined based on the Company's stock price on the grant date reduced by the present value of expected dividends through the vesting period. These awards are subject to forfeiture upon termination of employment prior to vesting, subject in some cases to early vesting upon specified events, including death, permanent disability or retirement of the grantee or change of control of the Company.

Compensation expense related to LSC Communications, RRD and Donnelley Financial RSUs held by Company employees, officers and directors was $6 million, $9 million and $7 million for the years ended December 31, 2018, 2017 and 2016, respectively. As of December 31, 2018, there was $6 million of unrecognized share-based compensation expense related to approximately 0.9 million RSUs outstanding, with a weighted-average grant date fair value of $19.65, that are expected to vest over a weighted-average period of 1.3 years.

Restricted Stock Awards

A summary of RSA activity for the Company's employees as of December 31, 2017 and 2018, and changes during the year ended December 31, 2018 is presented below.

	Shares (thousands)	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2017	112	$ 26.26
Vested	(49)	26.26
Forfeited	(18)	26.26
Nonvested at December 31, 2018	45	$ 26.26

Compensation expense related to RSAs for the years ended December 31, 2018, 2017 and 2016 was $1 million, $1 million and a de minimis amount, respectively. As of December 31, 2018, there was $1 million of unrecognized compensation expense related to RSAs, which is expected to be recognized over a weighted average period of 0.8 years.

Performance Restricted Stock

A summary of PRS activity for the Company's employees as of December 31, 2017 and 2018, and changes during the year ended December 31, 2018 is presented below.

	Shares (thousands)	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2017	222	$ 26.80
Vested	(89)	26.26
Nonvested at December 31, 2018	133	$ 27.16

During the years ended December 31, 2017 and 2016, 44,760 and 266,072 shares of PRS were granted to certain executive officers, payable upon the achievement of certain established performance targets. The performance periods for the shares awarded in 2017 and 2016 are January 1, 2017 to December 31, 2017 and October 1, 2016 to September 30, 2019, respectively. In addition to being subject to achievement of the performance target, the shares awarded in 2017 are also subject to time-based vesting on March 2, 2020. In addition to being subject to achievement of the performance target, the shares awarded in 2016 are also subject to time-based vesting in 3 even tranches on October 1, 2017, October 1, 2018 and October 1, 2019. 88,691 shares vested on October 1, 2018. For all awards, the performance-based vesting and the time-based vesting must be met for the PRS to vest.

The fair value of these awards was determined on the date of grant based on the Company's stock price. These awards are subject to forfeiture upon termination of employment prior to vesting, subject in some cases to early vesting upon specified events, including death, permanent disability or retirement of the grantee or change of control of the Company.

Compensation expense for the awards granted during the year ended December 31, 2017 is being recognized based on an estimated payout of 44,760 shares. Compensation expense for the awards granted during the year ended December 31, 2016 is being recognized based on an estimated payout of 266,072 shares. Compensation expense related to PRS for the years ended December 31, 2018, 2017 and 2016 was $3 million, $3 million and $1 million, respectively. As of December 31, 2018, there was $2 million of unrecognized compensation expense related to PRS, which is expected to be recognized over a weighted average period of 0.9 years.

Performance Share Units

A summary of PSU activity for the Company's employees as of December 31, 2017 and 2018, and changes during the year ended December 31, 2018 is presented below.

	Shares (thousands)	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2017	29	$ 26.72
Granted	249	12.67
Forfeited	(20)	17.71
Nonvested at December 31, 2018	258	$ 13.85

The 2018 and 2017 grants consisted of 248,583 and 28,520 PSUs, respectively, granted during the years ended December 31, 2018 and 2017 to certain members of senior management, respectively, payable upon the achievement of certain established performance targets. The performance period for 242,965 of the units awarded in 2018 is January 1, 2018 to December 31, 2020. The performance period for 5,618 of the units awarded in 2018 that relate to the 2017 grant and all units awarded in 2017 is January 1, 2017 to December 31, 2017, respectively. As of December 31, 2018, compensation expense for the PSUs granted in 2017 is being recognized based on an estimated payout of 27,192 shares. Compensation expense is being recognized as of December 31, 2018 based on an estimated payout of 121,483 for the 2018 grant, which is 50% of the original granted shares. In addition to being subject to achievement of the performance target, the PSUs granted in 2018 and 2017 are also subject to time-based vesting on March 2, 2021 and March 2, 2020, respectively. Both the performance-based vesting and the time-based vesting must be met for the PSUs to vest.

The fair value of these awards was determined based on the Company's stock price on the grant date reduced by the present value of expected dividends through the vesting period. These awards are subject to forfeiture upon termination of employment prior to vesting, subject in some cases to early vesting upon specified events, including death, permanent disability or retirement of the grantee or change of control of the Company.

There was $1 million and a de minimis amount of compensation expense related to PSUs for each of the years ended December 31, 2018 and 2017, respectively. As of December 31, 2018, there was $1 million of unrecognized compensation expense related to PSUs, which is expected to be recognized over a weighted average period of 2.1 years.

Note 18 . Segment Information

During the third quarter of 2018, the Company realigned the reportable segments and reporting units to reflect its evolution since its separation from RRD in 2016, as well as changes from recent acquisition and disposal activity. All prior year amounts have been reclassified to conform to the Company's current reporting structure.

The Company's segment and product and service offerings are summarized below:

Magazines, Catalogs and Logistics

The Magazines, Catalogs and Logistics segment primarily produces magazines and catalogs, as well as provides logistics solutions to the Company and other third parties. The segment also provides certain other print-related services, including mail-list management and sortation. The segment has operations primarily in the U.S. The Magazines, Catalogs and Logistics segment is divided into two reporting units: magazines and catalogs; and logistics. The Magazines, Catalogs and Logistics segment accounted for approximately 45% of the Company's consolidated net sales in 2018.

Book

The Book segment produces books for publishers primarily in the U.S. The segment also provides supply-chain management services and warehousing and fulfillment services, as well as e-book formatting for book publishers. The Book segment accounted for approximately 28% of the Company's consolidated net sales in 2018.

Office Products

The Office Products segment manufactures and sells branded and private label products in five core categories: filing products, envelopes, note-taking products, binder products, and forms. The Office Products segment accounted for approximately 15% of the Company's consolidated net sales in 2018.

Other

The Other grouping consists of the following non-reportable segments: Europe, Directories, Mexico, and Print Management. Europe produces magazines, catalogs and directories and provides packaging and pre-media services. Mexico produces magazines, catalogs, statements, forms, and labels. Print Management provides outsourced print procurement and management services. The Company disposed of its European printing business in the third quarter of 2018. The Other grouping consists of approximately 12% of the Company's consolidated net sales in 2018.

Corporate

Corporate consists of unallocated selling, general and administrative activities and associated expenses including, in part, executive, legal, finance, communications, certain facility costs and LIFO inventory provisions. In addition, share-based compensation expense is included in Corporate and not allocated to the operating segments. Prior to the separation, many of these costs were based on allocations from RRD, however, the Company has incurred such costs directly after the separation.

Information by Segment

The Company has disclosed income (loss) from operations as the primary measure of segment earnings (loss). This is the measure of profitability used by the Company's chief operating decision-maker and is most consistent with the presentation of profitability reported with the consolidated and combined financial statements.

Year Ended December 31, 2018	**Net Sales**	**Income (Loss) from Operations**	**Assets of Operations**	**Depreciation and Amortization**	**Capital Expenditures**
Magazines, Catalogs and Logistics	$ 1,767	$ (31)	$ 726	$ 62	$ 24
Book	1,055	58	572	52	31
Office Products	562	40	298	13	1
Total reportable segments	3,384	67	1,596	127	56
Other	444	26	78	10	3
Corporate	(2)	(51)	80	1	4
Total operations	$ 3,826	$ 42	$ 1,754	$ 138	$ 63

Year Ended December 31, 2017	**Net Sales**	**Income (loss) from Operations**	**Assets of Operations**	**Depreciation and Amortization**	**Capital Expenditures**
Magazines, Catalogs and Logistics	$ 1,583	$ (73)	$ 780	$ 72	$ 24
Book	1,022	62	553	60	13
Office Products	495	42	377	15	5
Total reportable segments	3,100	31	1,710	147	42
Other	503	28	222	11	10
Corporate	—	(78)	82	2	8
Total operations	$ 3,603	$ (19)	$ 2,014	$ 160	$ 60

Year Ended December 31, 2016	**Net Sales**	**Income (loss) from Operations**	**Assets of Operations**	**Depreciation and Amortization**	**Capital Expenditures**
Magazines, Catalogs and Logistics	$ 1,526	$ 28	$ 638	$ 76	$ 19
Book	1,097	86	626	67	10
Office Products	527	54	323	15	3
Total reportable segments	3,150	168	1,587	158	32
Other	504	27	237	12	10
Corporate	—	(65)	128	1	6
Total operations	$ 3,654	$ 130	$ 1,952	$ 171	$ 48

Corporate assets primarily consisted of the following items at December 31, 2018, 2017 and 2016:

	2018	**2017**	**2016**
Receivables, less allowances for doubtful accounts	$ 17	$ 19	$ 54
Software	19	17	13
Cash and cash equivalents	11	12	45
Long-term investments	14	13	19
Property, plant and equipment, net	14	14	15
LIFO reserves	(52)	(57)	(58)
Deferred income tax assets, net of valuation allowance	22	19	24

Restructuring, impairment and other charges by segment for the year ended December 31, 2018, 2017 and 2016 are described in Note 9, *Restructuring, Impairment and Other Charges.*

Note 19. Geographic Areas

The table below presents net sales and long-lived assets by geographic region.

	North America (b)	Europe	Mexico	Consolidated & Combined
2018				
Net sales	$ 3,495	$ 225	$ 106	$ 3,826
Long-lived assets (a)	571	—	30	601
2017				
Net sales	$ 3,226	$ 271	$ 106	$ 3,603
Long-lived assets (a)	607	32	36	675
2016				
Net sales	$ 3,286	$ 272	$ 96	$ 3,654
Long-lived assets (a)	651	30	23	704

(a) Includes net property, plant and equipment and other noncurrent assets.
(b) North America includes the United States and Canada.

As explained in Note 3, *Business Combinations and Disposition* , the Company completed the sale of its European printing business on September 28, 2018.

Note 20. Related Parties

On March 28, 2017, RRD completed the sale of approximately 6.2 million shares of LSC Communications common stock, representing its entire 19.25% retained ownership.

Allocations from RRD

Prior to the separation, RRD provided LSC Communications certain services, which included, but were not limited to, information technology, finance, legal, human resources, internal audit, treasury, tax, investor relations and executive oversight. RRD charged the Company for these services based on direct usage, when available, with the remainder allocated on a pro rata basis by revenue, headcount, or other measures. These allocations were reflected as follows in the consolidated and combined statement of operations:

	Nine months ended September 30, 2016
Costs of goods sold	$ 67
Selling, general and administrative	114
Depreciation and amortization	5
Total allocations from RRD	$ 186

The Company considered the expense methodologies and financial results to be reasonable. However, these allocations may not be indicative of the actual expenses that may have been incurred as an independent public company or the costs LSC Communications may incur in the future.

After the separation, the Company no longer receives or records allocations from RRD. The Company records transactions with RRD as external arms-length transactions in the Company's consolidated financial statements.

Transactions with RRD

Revenues and Purchases

Given that RRD sold its remaining stake in LSC Communications on March 28, 2017, the following information is presented for the three months ended March 31, 2017 and year ended December 31, 2016 only.

LSC Communications generates net revenue from sales to RRD's subsidiaries. Net revenues from related party sales were $32 million and $87 million for the three months ended March 31, 2017 and year ended December 31, 2016, respectively.

LSC Communications utilizes RRD for freight and premedia services, and utilized RRD for logistics services prior to LSC Communications' acquisition of Print Logistics in 2018. There were cost of sales of $51 million and $208 million for the three months ended March 31, 2017 and year ended December 31, 2016, respectively, related to freight, logistics and premedia services purchased from RRD. These amounts are included in the consolidated and combined statements of operations.

Note 21. New Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 "Leases (Topic 842) Section A—Leases: Amendments to the FASB Accounting Standards Codification" ("ASU 2016-02"), which requires lessees to put most leases on the balance sheet but recognize expense on the income statement in a manner similar to current accounting. For lessors, ASU 2016-02 also modifies the classification criteria and the accounting for sales-type and direct financing leases.

The standard is effective in the first quarter of 2019. Early adoption of ASU 2016-02 is permitted, however, the Company will adopt the standard in the first quarter of 2019. In July 2018, the FASB issued Accounting Standards Update No. 2018-11 "Leases (Topic 842): Targeted Improvements" ("ASU 2018-11"), which permits companies to initially apply the new leases standard at the adoption date and not restate periods prior to adoption. The Company will adopt ASU 2018-11.

The new standard provides a number of optional practical expedients in transition and in ongoing accounting. The Company will elect the 'package of practical expedients', which permits the Company not to reassess under the new standard the prior conclusions about lease identification, lease classification and initial direct costs. The Company will not elect the use-of-hindsight or the practical expedient pertaining to land easements. Related to ongoing accounting, the Company will make an accounting policy election to keep leases with an initial term of 12 months or less off of the balance sheet and will also elect the practical expedient to not separate lease and non-lease components for all of our leases. When calculating the balance sheet right of use assets and lease liabilities, the Company will apply an incremental borrowing rate commensurate with the original lease term and lease payments.

Upon adoption of ASC 842, the Company is required to recognize all right of use assets and lease liabilities on the balance sheet. Based upon the balances that existed as of December 31, 2018, the Company will record an increase of approximately $206 million to both right of use assets and lease liabilities in the first quarter of 2019. We anticipate that the adoption of ASC 842 will not have a material impact to the future consolidated net earnings and will not have a material impact on our liquidity or our debt-covenant compliance under our current agreements.

UNAUDITED INTERIM FI NANCIAL INFORMATION
(tabular amounts in millions, except per share data)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
2018					
Net sales	$ 929	$ 943	$ 1,015	$ 939	$ 3,826
Cost of sales	808	798	862	815	3,283
(Loss) income from operations	(6)	18	41	(11)	42
Net (loss) income	(11)	8	(4)	(16)	(23)
Net (loss) earnings per basic share	(0.32)	0.24	(0.12)	(0.47)	(0.67)
Net (loss) earnings per diluted share	(0.32)	0.23	(0.12)	(0.47)	(0.67)
2017					
Net sales	$ 821	$ 848	$ 935	$ 999	$ 3,603
Cost of sales	692	705	778	851	3,026
Income (loss) from operations	7	7	(18)	(15)	(19)
Net (loss) income	(1)	5	(3)	(58)	(57)
Net (loss) earnings per basic share	(0.02)	0.13	(0.07)	(1.68)	(1.69)
Net (loss) earnings per diluted share	(0.02)	0.12	(0.07)	(1.68)	(1.69)

The amounts above reflect the results of acquired businesses from the relevant acquisition dates and include the following significant items:

	Pre-tax					After-tax				
2018	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
Purchase accounting adjustments	$ 3	$ —	$ 1	$ (1)	$ 3	$ 2	$ —	$ 1	$ (1)	$ 2
Acquisition, merger and disposition-related expenses	1	1	2	6	10	—	1	2	5	8
Restructuring, impairment and other charges-net	6	11	1	17	35	4	8	1	14	27

	Pre-tax					After-tax				
2017	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
Separation-related expenses	$ 1	$ 2	$ 1	$ —	$ 4	$ 1	$ 1	$ 1	$ —	$ 3
Purchase accounting adjustments	—	—	1	(2)	(1)	—	—	1	(2)	(1)
Acquisition-related expenses	—	1	2	2	5	—	1	1	1	3
Loss on debt extinguishment	—	—	—	3	3	—	—	—	2	2
Restructuring, impairment and other charges-net	6	21	60	42	129	3	14	25	50	92

INDEX TO EXHIBITS

2.1	Separation and Distribution Agreement, dated as of September 14, 2016, by and among R. R. Donnelley & Sons Company, LSC Communications, Inc. and Donnelley Financial Solutions, Inc. (the "Separation Agreement") (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.2	Transition Services Agreement, dated as of September 14, 2016, between LSC Communications, Inc. and R. R. Donnelley & Sons Company (incorporated by reference to Exhibit 2.2 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.3	Transition Services Agreement, dated as of September 14, 2016, between LSC Communications, Inc. and Donnelley Financial Solutions, Inc. (incorporated by reference to Exhibit 2.3 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.4	Tax Disaffiliation Agreement, dated as of September 14, 2016, between LSC Communications, Inc. and R. R. Donnelley & Sons Company (incorporated by reference to Exhibit 2.4 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.5	Patent Assignment and License Agreement, dated as of September 27, 2016, between LSC Communications US, LLC and R. R. Donnelley & Sons Company (incorporated by reference to Exhibit 2.5 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.6	Trademark Assignment and License Agreement, dated as of September 27, 2016, between LSC Communications US, LLC and R. R. Donnelley & Sons Company (incorporated by reference to Exhibit 2.6 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.7	Data Assignment and License Agreement, dated as of September 27, 2016, between LSC Communications US, LLC and R. R. Donnelley & Sons Company (incorporated by reference to Exhibit 2.7 to the Company's Current Report on Form 8-K filed on October 3, 2016)
2.8	Software, Copyright and Trade Secret Assignment and License Agreement, dated as of September 27, 2016, between LSC Communications US, LLC and R. R. Donnelley & Sons Company (incorporated by reference to Exhibit 2.8 to the Company's Current Report on Form 8-K filed on October 3, 2016)
3.1	Amended and Restated Certificate of Incorporation of LSC Communications, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on October 3, 2016)
3.2	Amended and Restated By-laws of LSC Communications, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed on October 3, 2016)
4.1	Indenture, dated as of September 30, 2016, among LSC Communications, Inc., the subsidiary guarantors party thereto and Wells Fargo Bank, National Association, as Trustee and as Collateral Agent (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on October 3, 2016)
4.2	Registration Rights Agreement, dated as of July 28, 2017, by and among LSC Communications, Inc. Victor G. Warren Revocable Trust Dated July 14, 1993, James Reifenberg, Mark Nickel, Phillip Warren and James M. Slattery (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-3 filed on October 2, 2017)
10.1	Credit Agreement, dated as of September 30, 2016, among LSC Communications, Inc., the lenders party thereto, Bank Of America, N.A., as Administrative Agent Swing Line Lender and an L/C Issuer, Citigroup Global Markets Inc. and JPMorgan Chase Bank, N.A., as Co-Syndication Agents (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 3, 2016)
10.2	Amendment No. 1 to Credit Agreement dated as of November 17, 2017, by and among LSC Communications, Inc., the other Loan Parties, the 2017 Refinancing Term Lenders party thereto and Bank of America, N.A., as administrative agent and collateral agent (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed on May 3, 2018)

10.3	Amendment No. 2 to Credit Agreement dated as of December 20, 2018, by and among LSC Communications, Inc. the other Loan Parties, the Lenders party thereto and Bank of America, N. A., as administrative agent and collateral agent (filed herewith)
10. 4	2016 LSC Communications, Inc. Performance Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on October 3, 2016)*
10. 5	Amended and Restated LSC Communications, Inc. 2016 Performance Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 23, 2017)*
10. 6	LSC Communications, Inc. Nonqualified Deferred Compensation Plan, amended and restated effective as of August 1, 2018 (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on August 2, 2018)*
10. 7	LSC Unfunded Supplemental Pension Plan effective October 1, 2016 (incorporated by reference to Exhibit 10.4 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10. 8	Supplemental Executive Retirement Plan-B for Designated Executives effective January 1, 2001 as amended effective December 31, 2004, January 1, 2005 and September 30, 2016 (the "SERP-B") (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10. 9	LSC Communications Annual Incentive Plan as amended and restated effective January 17, 2019 (filed herewith)*
10. 10	Assignment of Employment Agreement and Acceptance of Assignment, dated as of September 29, 2016, between LSC Communications, Inc., R. R. Donnelley & Sons Company and Thomas J. Quinlan III (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on October 3, 2016)*
10 .1 1	Amendment to Employment Agreement, dated as of October 25, 2017, between LSC Communications, Inc. and Thomas J. Quinlan III (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 31, 2017)*
10.1 2	Key Employee Severance Plan effective October 25, 2017 (incorporated by reference to Exhibit 10.15 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, filed on November 2, 2017)*
10.1 3	Form of Participation Agreement for the Key Employee Severance Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed on January 19, 2018)*
10.1 4	Participation Agreement between Suzanne S. Bettman and the Company, dated as of January 24, 2018 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 26, 2018)*
10.1 5	Participation Agreement between Andrew B. Coxhead and the Company, dated as of January 24, 2018 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on January 26, 2018)*
10.1 6	Participation Agreement between Kent A. Hansen and the Company, dated as of January 24, 2018 (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on January 26, 2018)*
10.1 7	Participation Agreement between Richard T. Lane and the Company, dated as of January 24, 2018 (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on January 26, 2018)*
10.1 8	Form of Stock Option Award Agreement (for 2009 to 2012) converted from R. R. Donnelley & Sons Company to the Company pursuant to the Separation Agreement (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10.1 9	Form of Founder's Award (Restricted Stock) Agreement (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*

10. 20	Form of Performance Restricted Stock Award (for 2017) (incorporated by reference to Exhibit 10.29 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, filed on May 4, 2017)*
10.2 1	Form of Performance Unit Award Agreement (for 2018) (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed on February 22, 2018)*
10.2 2	Form of Stock Unit Award Agreement (for 2016) converted from R. R. Donnelley & Sons Company to the Company pursuant to the Separation Agreement (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10.2 3	Form of Stock Unit Award Agreement (for 2017) (incorporated by reference to Exhibit 10.30 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, filed on May 4, 2017)*
10.2 4	Form of Restricted Stock Unit Award Agreement (for 2018) (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed on February 22, 2018)*
10.25	Form of Restricted Stock Unit Award Agreement (for 2019) (filed herewith)*
10.2 6	Form of Director Indemnification Agreement (incorporated by reference to Exhibit 10.9 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016, filed on November 10, 2016)*
10.2 7	Policy on Retirement Benefits, Phantom Stock Grants and Stock Options for Directors as amended to March 2000 (incorporated by reference to Exhibit 10.16 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10.2 8	Non-Employee Director Compensation Plan effective as of October 30, 2018 (filed herewith)*
10.2 9	Form of Director Restricted Stock Unit Award as amended (for 2004-2007) converted from R. R. Donnelley & Sons Company to the Company pursuant to the Separation Agreement (incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10. 30	Form of Director Restricted Stock Unit Award (for 2014-2016) converted from R. R. Donnelley & Sons Company to the Company pursuant to the Separation Agreement (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)*
10. 31	Form of Director Restricted Stock Unit Award Agreement (for 2018) (incorporated by reference to Exhibit 10.21 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, filed on November 2, 2017)*
14.1	Code of Ethics for the Chief Executive Officer and Senior Financial Officers (incorporated by reference to Exhibit 14.1 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 23, 2017)
21.1	Subsidiaries of the Company (filed herewith)
23.1	Consent of Deloitte & Touche LLP (filed herewith)
24.1	Powers of Attorney (filed herewith)
31.1	Certification by Thomas J. Quinlan, III, Chief Executive Officer, required by Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934 (filed herewith)
31.2	Certification by Andrew B. Coxhead, Chief Financial Officer, required by Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934 (filed herewith)
32.1	Certification by Thomas J. Quinlan, III, Chief Executive Officer, required by Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code (filed herewith)

32.2	Certification by Andrew B. Coxhead, Chief Financial Officer, required by Rule 13a-14(b) or Rule 15d-14(b) of the S ecurities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code (filed herewith)
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Management contract or compensatory plan or arrangement

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 19th day of February 2019.

LSC COMMUNICATIONS, INC.

By: /s/ ANDREW B. COXHEAD
Andrew B. Coxhead
Chief Financial Officer
(Principal Financial Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated, on the 19th day of February 2019.

Signature and Title	Signature and Title
/s/ THOMAS J. QUINLAN III **Thomas J. Quinlan III** **President and Chief Executive Officer** **Chairman of the Board, Director** ***(Principal Executive Officer)***	/s/ FRANCIS J. JULES * **Francis J. Jules** **Director**
/s/ ANDREW B. COXHEAD **Andrew B. Coxhead** **Chief Financial Officer** ***(Principal Financial Officer)***	/s/ THOMAS F. O'TOOLE * **Thomas F. O'Toole** **Director**
/s/ KENT A. HANSEN **Kent A. Hansen** **Chief Accounting Officer and Controller** ***(Principal Accounting Officer)***	/s/ RICHARD K. PALMER * **Richard K. Palmer** **Director**
/s/ M. SHÂN ATKINS * **M. Shân Atkins** **Director**	/s/ DOUGLAS W. STOTLAR * **Douglas W. Stotlar** **Director**
/s/ MARGARET A. BREYA * **Margaret A. Breya** **Director**	/s/ SHIVAN S. SUBRAMANIAM * **Shivan S. Subramaniam** **Director**
/s/ JUDITH H. HAMILTON * **Judith H. Hamilton** **Director**	

By: /s/ SUZANNE S. BETTMAN
Suzanne S. Bettman
As Attorney-in-Fact

* By Suzanne S. Bettman as Attorney-in-Fact pursuant to Powers of Attorney executed by the directors listed above, which Powers of Attorney have been filed with the Securities and Exchange Commission

Exhibit 10.3

EXECUTION VERSION

AMENDMENT NO. 2 TO CREDIT AGREEMENT

AMENDMENT NO. 2 TO CREDIT AGREEMENT (this " Amendment No. 2 "), dated as of December 20, 2018, by and among LSC Communications, Inc. (the " Borrower "), the other Loan Parties, the Lenders party hereto and Bank of America, N.A. (" BofA "), as administrative agent and collateral agent (in such capacities, including any permitted successor thereto, the " Administrative Agent ").

PRELIMINARY STATEMENTS

WHEREAS, the Borrower has entered into that certain Credit Agreement, dated as of September 30, 2016, among the Borrower, the other parties thereto, the Lenders party thereto from time to time , BofA, as Administrative Agent, Swing Line Lender and as an Issuing Bank and the other Issuing Banks party thereto from time to time (as amended, restated, amended and restated, supplemented or otherwise modified from time to time prior to, but not including, the date hereof, the " Credit Agreement ") (capitalized terms used without definition herein have the meanings given such terms by the Credit Agreement); and

WHEREAS, the Borrower has requested that the Credit Agreement be amended as set forth herein (the Credit Agreement, as amended by this Amendment No. 2, the " Amended Credit Agreement ") and the Lenders party hereto (constituting the Required Lenders and Required Revolving Lenders) have consented to this Amendment No. 2;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is acknowledged by each party hereto, it is agreed:

AmendmentS to Credit AgREEMENT

.

Effective as of the Amendment No. 2 Effective Date (as defined below), the Credit Agreement is hereby amended as follows:

(a) Section 1.01 of the Credit Agreement is hereby amended by inserting the following new definitions in their correct alphabetical order:

" Beneficial Ownership Certification " means a certification regarding beneficial ownership required by the Beneficial Ownership Regulation.

" Beneficial Ownership Regulation " means 31 C.F.R. § 1010.230.

(b) Article III of the Credit Agreement is hereby amended by inserting the following Section 3.24:

"Section 3.24 Beneficial Ownership Certificate. As of the Amendment No. 2 Effective Date, the information included in the Beneficial Ownership Certification, if applicable, is true and correct in all respects."

(c) Section 5.01 of the Credit Agreement is hereby amended by inserting the following clause (h) immediately following clause (g):

“(h) Promptly following any request therefor, provide information and documentation reasonably requested by the Administrative Agent or any Lender for purposes of compliance with applicable “know your customer” and anti-money-laundering rules and regulations, including, without limitation, the PATRIOT Act and the Beneficial Ownership Regulation.”

(d) Section 6.10 of the Credit Agreement is hereby replaced in its entirety with the following:

“(a) The Borrower will not permit the Consolidated Leverage Ratio as of the last day of any fiscal quarter of the Borrower, commencing with the fiscal quarter ending December 31, 2016 to exceed (i) with respect to any fiscal quarter ending prior to March 31, 2020, 3.25 to 1.00 and (ii) with respect to any fiscal quarter ending on or after March 31, 2020, 3.00 to 1.00; and

(b) For so long as any Revolving Commitments are outstanding or any Lender has any Outstanding Revolving Credit, the Borrower will not permit the Interest Coverage Ratio for any Test Period, commencing with the Test Period ending December 31, 2016 to be less than (i) with respect to any Test Period ending prior to March 31, 2018, 3.00 to 1.00, (ii) with respect to any Test Period ending on or after March 31, 2018 and prior to March 31, 2020, 3.25 to 1.00 and (iii) with respect to any Test Period ending on or after March 31, 2020, 3.50 to 1.00.”.

Reference to and Effect on the Credit Agreement

. On and after the Amendment No. 2 Effective Date, each reference in the Credit Agreement to “this Agreement,” “hereunder,” “hereof” and each reference to the “Credit Agreement” in any other Loan Document and, in each case, any text of like import referring to the Credit Agreement shall mean and be a reference to the Credit Agreement as amended by this Amendment No. 2. This Amendment No. 2 shall for all purposes constitute a “Loan Document” under and as defined in the Credit Agreement and the other Loan Documents.

Representations & Warranties

.

In order to induce the Lenders party hereto and the Administrative Agent to enter into this Amendment No. 2, each Loan Party hereby represents and warrants to the Lenders and the Administrative Agent on and as of the Amendment No. 2 Effective Date that each of the representations and warranties made by any Loan Party set forth in Article III of the Credit Agreement or in any other Loan Document shall be true and correct in all material respects (*provided* that, any representation and warranty that is qualified by “materiality,” “material adverse effect” or similar language shall be true and correct in all respects (after giving effect to any such qualification therein)) on and as of the Amendment No. 2 Effective Date with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date (in which case such representations and warranties shall be true and correct in all material respects (or if any such representation and warranty is qualified by “materiality,” “material adverse effect” or similar language, shall be true and correct in all respects (after giving effect to any such qualification therein)) on and as of such earlier date); *provided* that all references in the representations set forth in Sections 3.02 , and 3.03 of the Credit Agreement to “Loan Documents” shall be deemed to be references to this Amendment No. 2 and the other Loan Documents (including the Credit Agreement) as amended by this Amendment No. 2.

Conditions Precedent .

This Amendment No. 2 shall become effective as of the first date (the “ Amendment No. 2 Effective Date ”) when each of the conditions set forth in this Section 4 shall have been satisfied:

(a) The Administrative Agent shall have received a duly authorized, executed and delivered counterpart of the signature page to this Amendment No. 2 from each Loan Party, the

Administrative Agent and Lenders constituting the Required Lenders and Required Revolving Lenders.

(b) All costs, fees and expenses (including, without limitation, legal fees and expenses) contemplated and to the extent required by the Credit Agreement shall have been paid to the extent due.

(c) The Administrative Agent shall have received from the Borrower, for the account of each Lender that has validly returned an executed counterpart to this Amendment No. 2 to the Administrative Agent prior to 5:00 p.m., New York City time, on December 17, 2018 a fee equal to 0.10% of the aggregate Revolving Credit Commitments and Term Loans of such Lender on the Amendment No. 2 Effective Date.

(d) No Default or Event of Default shall have occurred or be continuing or would occur immediately after giving effect to the effectiveness of this Amendment No. 2 on the Amendment No. 2 Effective Date.

(e) Each of the representations and warranties made by any Loan Party set forth in Section 3 hereof shall be true and correct in all material respects (*provided* that, any representation and warranty that is qualified by "materiality," "material adverse effect" or similar language shall be true and correct in all respects (after giving effect to any such qualification therein)) on and as of the Amendment No. 2 Effective Date with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date (in which case such representations and warranties shall be true and correct in all material respects (or if any such representation and warranty is qualified by "materiality," "material adverse effect" or similar language, shall be true and correct in all respects (after giving effect to any such qualification therein)) on and as of such earlier date).

(f) The Administrative Agent shall have received a certificate of the Borrower, dated the Amendment No. 2 Effective Date, executed by a Responsible Officer of the Borrower certifying compliance with the requirements set forth in clauses (d) and (e) of this Section 4.

(g) At least 3 business days prior to the Amendment No. 2 Effective Date, any Borrower that qualifies as a "legal entity customer" under the Beneficial Ownership Regulation shall deliver, to each Lender that so requests, a Beneficial Ownership Certification in relation to such Borrower.

Reaffirmation.

(a) To induce the Lenders and the Administrative Agent to enter into this Amendment No. 2, each of the Loan Parties hereby acknowledges and reaffirms its obligations under each Loan Document to which it is a party, including, without limitation, any prior grant, prior pledge or prior collateral assignment of a lien or security interest, as applicable, contained therein, in each case as amended, restated, amended and restated, supplemented or otherwise modified prior to or as of the date hereof (including as amended pursuant to this Amendment No. 2). Each Loan Party acknowledges and agrees that each of the Loan Documents to which it is a party or otherwise bound shall continue in full force and effect and that all of its obligations thereunder shall not be impaired or limited by the execution or effectiveness of this Amendment No. 2. Each Guarantor (other than the Borrower) acknowledges and agrees that (i) such Guarantor is not required by the terms of the Credit Agreement or any other Loan Document to consent to this Amendment No. 2 and (ii) nothing in the Credit Agreement, this Amendment No. 2 or any other Loan Document shall be deemed to require the consent of such Guarantor to any future amendment, consent or waiver of the terms of the Credit Agreement.

Miscellaneous Provisions.

(a) Ratification. This Amendment No. 2 is limited to the matters specified herein and shall not constitute acceptance or waiver, or, to the extent not expressly set forth herein, an amendment or modification, of any other provision of the Credit Agreement or any other Loan Document.

(b) Governing Law; Submission to Jurisdiction, Consent to Service of Process, Waiver of Jury Trial, Etc. Sections 9.10 and 9.11 of the Credit Agreement are incorporated by reference herein as if such Sections appeared herein, *mutatis mutandis* .

(c) Severability. Section 9.08 of the Credit Agreement is incorporated by reference herein as if such Section appeared herein, *mutatis mutandis* .

(d) Expenses; Indemnity; Damage Waiver; No Advisory or Fiduciary Relationship. Sections 9.04 and 9.16 of the Credit Agreement are incorporated by reference herein as if such Sections appeared herein, and shall apply to the activities of BofA and its Related Parties in connection with this Amendment No. 2, *mutatis mutandis* .

(e) Counterparts; Headings. This Amendment No. 2 may be executed in counterparts (and by different parties hereto on different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Amendment No. 2 by telecopy or other electronic transmission (including in .pdf format) shall be effective as delivery of a manually executed counterpart of this Amendment No. 2. Article and Section headings used herein are for convenience of reference only, and are not part of this Amendment No. 2 and shall not affect the construction of, or be taken into consideration in interpreting, this Amendment No. 2.

(f) Amendment, Modification and Waiver. This Amendment No. 2 may not be amended nor may any provision hereof be waived except pursuant to a writing signed by each of the parties hereto.

[*Remainder of page intentionally blank; signatures begin next page*]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 2 to be duly executed by their respective authorized officers as of the date first above written.

LSC COMMUNICATIONS, INC. , as Borrower

By: /s/ Suzanne S. Bettman
Name: Suzanne S. Bettman
Title: Chief Compliance Officer; Secretary; General Counsel

WITH RESPECT TO SECTION 5:
COURIER COMMUNICATIONS LLC ,
COURIER KENDALLVILLE, INC.,
COURIER NEW MEDIA, INC.,
CREEL PRINTING, LLC
DOVER PUBLICATIONS, INC.,
FAIRRINGTON, LLC,
LSC COMMUNICATIONS MM LLC,
LSC COMMUNICATIONS US, LLC,
LSC INTERNATIONAL HOLDINGS, INC.,
NATIONAL PUBLISHING COMPANY,
PUBLISHERS PRESS, LLC, and
QUALITY PARK, LLC,
each as a Loan Party

By: /s/ Janet M. Halpin
Name: Janet M. Halpin
Title: Treasurer

BANK OF AMERICA, N.A., as Administrative Agent and Collateral Agent

By /s/Angela Larkin
Name: Angela Larkin
Title: Vice President

BANK OF AMERICA, N.A., as Lender

By /s/ Kyle Oberkrom
Name: Kyle Oberkrom
Title: Associate

[LENDER SIGNATURE PAGES ON FILE WITH ADMINISTRATIVE AGENT]

LSC COMMUNICATIONS, INC.
ANNUAL INCENTIVE PLAN
(As amended and restated effective January 17, 2019)

OVERVIEW

The LSC Communications Annual Incentive Plan (the “Annual Incentive Plan” or the “Plan”) is designed to promote the growth and profitability of LSC Communications, Inc. and its subsidiaries (the “Company” or “LSC Communications”) with incentives to reward and enhance the retention of eligible employees. Awards are made depending on the Company’s financial performance and on how well an eligible employee performs against individual goals that link to and support the Company’s strategic and financial priorities.

The Plan is a sub-plan of the LSC Communications Amended and Restated 2016 Performance Incentive Plan (the “2016 PIP”) and is subject to all of the performance conditions established pursuant to the 2016 PIP and the limitations set forth therein.

The Human Resources Committee of the Board of Directors of the Company (the “Committee”) administers the Plan. The Committee has authority to establish rules and regulations for the Plan’s implementation and administration, including the authority to impose limitations and conditions, with respect to competitive employment or otherwise, that are not inconsistent with the Plan’s purposes.

PARTICIPATION

Eligibility is limited to executive officers selected by the Committee and other employees designated as eligible by position in the organization.

TARGET AWARD PERCENTAGE AND PLAN FUNDING

Each eligible participant’s target incentive opportunity under the Annual Incentive Plan is a percentage of such participant’s base salary as of December 31 of the Plan Year, or such other amount as determined by the Committee. This is referred to as the “Target Award Percentage” and will be communicated to eligible participants annually. Eligible wages do not include disability benefit payments. The “Plan Year” for any year is the calendar year. The portion of any Target Award Percentage that is dependent upon achievement of personal goals may vary based on the participant’s level in the Company (the “Personal Goal Percentage”) and will be communicated to eligible participants annually.

Subject to the performance conditions established under the 2016 PIP and the limitations set forth therein, the Company must fund the Plan for a Plan Year for participants to receive an award for that Plan Year. The decision whether or not to fund the Plan for a particular Plan Year,
as well as the Plan’s funding level, is made by the Committee in its sole discretion based on financial performance targets set by the Committee, which may not be amended after the end of

the Plan Year. Plan funding is based upon the Company's actual financial performance for the Plan Year against the previously set targets and if the Committee determines that the financial targets have been met, the Plan will be funded.

If the Plan is funded, Plan awards will be made based upon the Plan's funding level and the participant's achievement level of his or her personal goals, up to 150% of the participant's Target Award Percentage (or such other percentage as determined by the Committee).

PERSONAL GOALS

Personal goals are established for each participant each Plan Year to link and support LSC Communications' strategic and financial priorities. A participant's personal goals are determined each year in consultation with the participant and his or her manager and are communicated to the participant in writing as part of the goal-setting process. The portion of any Target Award Percentage that is dependent upon achievement of personal goals may vary based on the participant's level in the Company and will be communicated to eligible participants annually. The Committee's determination of whether a participant has attained, in whole or in part, the participant's personal goals for a Plan Year, shall be final and binding.

AWARD AMOUNT AND PAYMENT

Awards are paid following the Plan Year after the Company has determined the achievement of performance goals under the 2016 PIP and the Plan funding decisions and personal performance goals have been made. Except as otherwise provided herein, or by the Committee, at any time prior to the end of such Plan Year, any award to be paid under the Plan shall be paid to recipients within 2 1/2 months after the end of the Plan Year (i.e., by March 15). A participant must be on the payroll of the Company as of the end of the Plan Year (i.e. as of December 31) to receive an award, except as otherwise determined by the Company. Special provisions apply to retirees and in the case of a participant's death or Disability. *(Please refer to the Changes in Employment Status section of this document for details.)*

The Committee has the discretionary authority prior to the end of the Plan Year to determine to pay any award in installment payments over a specified period of time. The Committee also has discretionary authority to increase or decrease the amount of the award otherwise payable if it determines prior to the end of the Plan Year that an adjustment is appropriate to better reflect the actual performance of the Company and/or the participant; provided further, the Committee has discretionary authority to decrease the amount of the award otherwise payable at any time for any person designated as an executive officer of the Company for purposes of Section 16 of the Securities Exchange Act of 1934, including after the end of the Plan Year. Additionally, the Committee has discretionary authority to reduce the amount of the award otherwise payable if it determines that any participant engaged in misconduct.

BENEFITS AND TAX TREATMENT

Award payments are subject to applicable deductions, including social security taxes and federal and applicable state and local income tax withholding.

The treatment of award payments as compensation for purposes of other LSC Communications employee benefits plans is determined by the terms of the applicable plans.

CHANGES IN EMPLOYMENT STATUS

A. PROMOTIONS, DEMOTIONS, TRANSFERS, CHANGES IN ASSIGNMENT

If a participant is promoted, demoted, transferred to or between business units or from corporate during the year, any award payout normally will be calculated by prorating the payouts for each eligible position based on the time assigned to that position. Promotions on to the AIP Plan on or after October 1 of the Plan Year will not be eligible to participate in the Annual Incentive Plan until the following such Plan Year.

B. NEW HIRE

Employees hired prior to October 1 st of the Plan Year shall be eligible to participate in the Annual Incentive Plan in the year of hire if designated. Eligible employees hired on or after October 1 of the Plan Year will not be able to participate in the Annual Incentive Plan until the following such Plan Year.

C. RETIREMENT, DEATH or DISABILITY

A participant's retirement*, death, or Disability** during a Plan Year or prior to the payment date will not disqualify a participant from eligibility to receive any award that otherwise would be due under the Plan.

* For purposes of the Plan, "retirement" means separation from service with the Company (i) at age 65, or (ii) at or after age 55 with 5 or more years of continuous service, except in each case as determined by the Committee.

** For purposes of the Plan, "Disability" means disability as defined as in the Company's long-term disability policy as in effect at the time of the participant's disability.

D. OTHER TERMINATION

Except as otherwise determined by the Company, if a participant's employment terminates for reasons other than retirement (as defined above), death, or Disability (as defined above) prior to the end of the Plan Year, no award shall be payable.

ADMINISTRATION

The Committee has full discretionary authority to administer the Plan, including the authority to determine the performance achievement attained under the Plan. The Committee may delegate to members of LSC Communications' management the authority to administer the Plan and determine performance under the Plan.

LSC Communications retains the right to amend or terminate the Plan at any time; provided, however, that awards for any Plan Year may not be amended or terminated after the completion of such Plan Year except in cases of misconduct of the participant.

LSC COMMUNICATIONS, INC.
RESTRICTED STOCK UNIT AWARD (2016 PIP)

This Restricted Stock Unit Award ("Award") is granted as of **XXXXXX, 20XX** (the "Grant Date"), by LSC Communications, Inc., a Delaware corporation (the "Company"), to **XXXXXX** ("Grantee").

1. Grant of Award . This Award is in recognition of your hard work and dedication to the Company and is granted as an incentive for Grantee to remain an employee of the Company and share in the future success of the Company. The Company hereby credits to Grantee **XXXXXX** restricted stock units (the "Restricted Stock Units"), subject to the restrictions and on the terms and conditions set forth herein. This Award is made pursuant to the provisions of the Company's Amended and Restated 2016 Performance Incentive Plan (the "2016 PIP"). Capitalized terms not defined herein shall have the meanings ascribed to them in the 2016 PIP, unless specified otherwise. Grantee shall indicate acceptance of this Award by signing and returning a copy hereof.

2. Vesting; Distribution of Award .

(a) Subject to Sections 3 and 4 below, the Restricted Stock Units shall vest 100% on XXXXXX.

(b) As soon as practicable, but not more than 30 days following the vesting date, the Company shall issue one share of common stock of the Company ("Common Stock") to Grantee for each Restricted Stock Unit that has vested on such date. Each Restricted Stock Unit shall be cancelled upon the earlier to occur of the issuance of a share of Common Stock with respect thereto and the forfeiture of this Award prior to vesting.

3. Treatment Upon Separation from Service.

(a) If Grantee has a separation from service (within the meaning of Treasury Regulation § 1.409A-1(h), hereinafter a "Separation from Service") by reason of death or Disability (as defined in the applicable Company long-term disability policy as in effect at the time of Grantee's disability), the Restricted Stock Units shall become fully vested of the date of such Separation from Service.

(b) If Grantee has a Separation from Service other than as specified in Section 3(a) above or Section 4 below, the Restricted Stock Units, if unvested, shall be forfeited.

4. Treatment upon Change in Control .

(a) At the Effective Time (as defined in that certain Agreement and Plan of Merger by and among Quad/Graphics, Inc., QLC Merger Sub, Inc., and LSC Communications, Inc., dated as of October 30, 2018 (the "Merger Agreement")), the Restricted Stock Units shall be converted into a restricted stock unit denominated in shares of Quad/Graphics, Inc. class A common stock, as set forth in Section 6.2(d) of the Merger

Agreement.

(b) If Grantee's employment is terminated by the Company without Cause or Grantee resigns his or her employment for Good Reason (each as defined in Grantee's Employment Agreement or Participation Agreement under the Company's Key Employee Severance Plan, as applicable) within 24 months of the Closing Date (as defined in the Merger Agreement), a prorated portion of the Restricted Stock Units shall immediately vest and become nonforfeitable. Such prorated portion shall equal the number of Restricted Stock Units multiplied by a fraction, the numerator of which is the number of days elapsed between the Grant Date and the date of such termination or resignation, and the denominator of which is 1,095.

5. Dividends . No dividends or dividend equivalents will accrue with respect to the Restricted Stock Units.

6. Rights as a Shareholder . Unless and until distribution with respect to this Award is made in Common Stock pursuant to paragraph 2(b) above, Grantee shall not have the right to vote, nor have any other rights of ownership in, the shares of Common Stock represented by the Restricted Stock Units.

7. Withholding Taxes .

(a) As a condition precedent to the issuance to Grantee of any shares of Common Stock pursuant to this Award, Grantee shall, upon request by the Company, pay to the Company such amount of cash as the Company may be required, under all applicable federal, state, local or other laws or regulations, to withhold and pay over as income or other withholding taxes (the "Required Tax Payments") with respect to the Award. If Grantee shall fail to advance the Required Tax Payments after request by the Company, the Company may, in its discretion, deduct any Required Tax Payments from any amount then or thereafter payable by the Company to Grantee.

(b) Grantee may elect to satisfy his or her obligation to advance the Required Tax Payments by any of the following means: (1) a cash payment to the Company, (2) delivery to the Company of previously owned whole shares of Common Stock for which Grantee has good title, free and clear of all liens and encumbrances, having a fair market value, determined as of the date the obligation to withhold or pay taxes first arises in connection with the Award (the "Tax Date"), equal to the Required Tax Payments, (3) directing the Company to withhold a number of shares of Common Stock otherwise issuable to Grantee pursuant to this Award having a fair market value, determined as of the Tax Date, equal to the Required Tax Payments or (4) any combination of (1)-(3). Any fraction of a share of Common Stock which would be required to satisfy such an obligation shall be disregarded and the remaining amount due shall be paid in cash by Grantee. No certificate representing a share of Common Stock shall be delivered until the Required Tax Payments have been satisfied in full. For purposes of this Award, the fair market value of a share of Common Stock on a specified date shall be determined by reference to the closing stock price in trading of the Common Stock on such date or, if no such trading in the Common Stock occurred on such date, then on the next preceding date when such trading occurred.

8. Non-Solicitation . Grantee and the Company recognize that, due to the nature of Grantee's employment and relationship with the Company, Grantee will have access to and develop confidential business information, proprietary information, and trade secrets relating to the business and operations of the Company and its affiliates. Grantee acknowledges that such information is valuable to the business of the Company and its affiliates, and that disclosure to, or use for the benefit of, any person or entity other than the Company or its affiliates, would cause substantial damage to the Company. Grantee further acknowledges that his or her duties for the Company include the opportunity to develop and maintain relationships with the Company's customers, employees, representatives and agents on behalf of the Company and that access to and development of those close relationships with the Company's customers render Grantee's services special, unique and extraordinary. As a result of Grantee's position and customer contacts, Grantee recognizes that he or she will gain valuable information about (i) the Company's relationship with its customers, their buying habits, special needs, and purchasing policies, (ii) the Company's pricing policies, purchasing policies, profit structures, and margin needs, (iii) the skills, capabilities and other employment-related information relating to Company employees, and (iv) other matters of which Grantee would not otherwise know and that is not otherwise readily available. Grantee recognizes that the good will and relationships described herein are assets and extremely valuable to the Company, and that loss of or damage to those relationships would destroy or diminish the value of the Company. In consideration for the grant of this Award, Grantee agrees as follows:

(a) *Non-Solicitation of Customers.* Grantee shall not, while employed by the Company and for a period of one year from the date of his or her Separation from Service for any reason, including Separation from Service initiated by the Company with or without Cause, directly or indirectly, either on Grantee's own behalf or on behalf of any other person, firm or entity, solicit or provide services that are the same as or similar to the services the Company provided or offered while Grantee was employed by the Company to any customer or prospective customer of the Company (i) with whom Grantee had direct contact during the last two years of Grantee's employment with the Company or about whom Grantee learned confidential information as a result of his or her employment with the Company, or (ii) with whom any person over whom Grantee had supervisory authority at any time had direct contact during the last two years of Grantee's employment with the Company or about whom such person learned confidential information as a result of his or her employment with the Company.

(b) *Non-Solicitation of Employees.* Grantee shall not, while employed by the Company and for a period of two years following his or her Separation from Service for any reason, including his or her Separation from Service initiated by the Company with or without Cause, either directly or indirectly solicit, induce or encourage any individual who was a Company employee at the time of, or within six months prior to, Grantee's Separation from Service, to terminate their employment with the Company or accept employment with any entity, including but not limited to a competitor, supplier or customer of the Company, nor shall Grantee cooperate with any others in doing or attempting to do so. As used herein, the term "solicit, induce or encourage" includes, but is not limited to, (i) initiating communications with a Company employee relating to possible employment, (ii) offering bonuses or other compensation to encourage a Company employee to terminate his or her employment with the Company and accept employment with any entity, including but not limited to a competitor, supplier or customer of the Company, or (iii) referring Company employees to personnel or agents employed by any entity, including but not limited to competitors, suppliers or customers of the Company.

9. Miscellaneous .

(a) The Company shall pay all original issue or transfer taxes with respect to the issuance or delivery of shares of Common Stock pursuant hereto and all other fees and expenses necessarily incurred by the Company in connection therewith, and will use reasonable efforts to comply with all laws and regulations which, in the opinion of counsel for the Company, shall be applicable thereto.

(b) Nothing in this Award shall confer upon Grantee any right to continue in the employ of the Company or any other company that is controlled, directly or indirectly, by the Company or to interfere in any way with the right of the Company to terminate Grantee's employment at any time.

(c) This Award shall be governed in accordance with the laws of the state of Delaware.

(d) This Award shall be binding upon and inure to the benefit of any successor or successors to the Company. For the avoidance of doubt, following the Effective Time, references herein to the "Company" shall refer to Quad/Graphics, Inc. and QLC Merger Sub, Inc.

(e) Neither this Award nor the Restricted Stock Units nor any rights hereunder or thereunder may be transferred or assigned by Grantee other than by will or the laws of descent and distribution or pursuant to beneficiary designation procedures approved by the Company or other procedures approved by the Company. Any other transfer or attempted assignment, pledge or hypothecation, whether or not by operation of law, shall be void.

(f) The Committee, as from time to time constituted, shall have the right to determine any questions which arise in connection with this Agreement or the Restricted Stock Units. This Agreement and the Restricted Stock Units are subject to the provisions of the 2016 PIP and shall be interpreted in accordance therewith.

(g) For the avoidance of doubt, Grantee agrees and acknowledges that the Restricted Stock Units and any shares of Common Stock that may be delivered to Grantee upon vesting pursuant to this Agreement are subject to the Company's policies in place at the time of grant of this Award.

(h) If Grantee is a resident of Canada, Grantee further agrees and represents that any acquisitions of Common Stock hereunder are for his or her own account for investment, and without the present intention of distributing or selling such Common Stock or any of them. Further, the Company and its subsidiaries expressly reserve the right at any time to dismiss Grantee free from any liability, or any claim under this Award, except as provided herein or in any agreement entered into hereunder. Any obligation of the Company under this Award to make any payment at any future date or issue Common Stock merely constitutes the unfunded and unsecured promise of the Company to make such payment or issue such Common Stock; any payment shall be from the Company's general assets in accordance with this Award and the issuance of any Common Stock shall be subject to the Company's compliance with all applicable laws including securities law and the laws its jurisdiction of incorporation or continuance, as applicable, and no Grantee shall have any interest in, or lien or prior claim upon, any property of the Company or any subsidiary by reason of that obligation. If Grantee is a resident of Canada, Grantee hereby indemnifies the Company against and agrees to hold it free and harmless from any loss, damage, expense or liability resulting to the Company if any sale or distribution of the Common Stock by Grantee is contrary to the representations and agreements referred to above.

(i) If there is any conflict between the terms and conditions of this Award (including, for the avoidance of doubt, treatment upon termination of employment) and the terms and conditions of Grantee's employment agreement, Participation Agreement under the Company's Key Employee Severance Plan, employment letter or other similar agreement with the Company, the terms and conditions of such agreement shall control.

(j) This Award is intended to be exempt from section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder, as a "short-term deferral." This Award shall be administered and interpreted to the extent possible in a manner consistent with the intent expressed in this paragraph. If any compensation or benefits provided by this Award may result in the application of section 409A of the Code, the Company shall, in consultation with you, modify this Award as necessary in order to exclude such compensation from the definition of "deferred compensation" within the meaning of such section 409A of the Code or in order to comply with the provisions of section 409A of the Code. By signing this Agreement you acknowledge that if any amount paid or payable to you becomes subject to section 409A of the Code, you are solely responsible for the payment of any taxes and interest due as a result.

IN WITNESS WHEREOF, the Company has caused this Award to be duly executed by its duly authorized officer.

LSC Communications, Inc.

By:

Name: Suzanne S. Bettman
Title: Chief Administrative Officer

All of the terms of this Award are accepted as of this ___ day of ______, 2019.

____
Grantee:

LSC Communications, Inc.

Non-Employee Director Compensation Plan

Explanatory Note : Pursuant to the Agreement and Plan of Merger by and among Quad/Graphics, Inc., QLC Merger Sub, Inc. and LSC Communications, Inc. (the "Company"), dated as of October 30, 2018 (the "Merger Agreement"), if the closing of the transaction contemplated by the Merger Agreement has not occurred by May 22, 2019, the Company may grant and pay its non-employee directors the annual cash retainers, including additional cash retainers equal to the value of the equity retainer(s) such directors otherwise would have been entitled to receive, in each case in the amounts set forth below pursuant to the terms of this Non-Employee Director Compensation Plan. Such amounts would be paid on May 23, 2019. The terms of this plan otherwise remain unchanged.

Each director shall receive (A) an annual cash retainer (a "Cash Retainer") and (B) an annual equity retainer (an "Equity Retainer") to be paid in the form of a grant of Restricted Stock Units ("RSUs") each on the date of the Company's Annual Meeting of Stockholders, as described further below and pursuant to the Company's Performance Incentive Plan in effect on such date (the "Plan").

1) Cash Retainer .

   a) Each director shall be entitled to a Cash Retainer equal to $90,000.

   b) Any director in a leadership role shall be entitled to an additional Cash Retainer in the applicable amount described in the table below:

Lead Director	$62,500
Chairman of the Audit Committee	$25,000
Chairman of the Human Resources Committee	$25,000
Chairman of the Corporate Responsibility & Governance Committee	$20,000

2) Equity Retainer .

   a) Each director shall be entitled to an Equity Retainer equal to $135,000.

   b) The Lead Director shall be entitled to an additional Equity Retainer equal to $62,500.

   c) The number of shares granted shall be calculated pursuant to the terms of the Plan and shall be rounded down to the nearest share.

   d) RSUs will vest and be payable on the first anniversary of the grant date , but will be payable in full on the earlier of (i) the date the director ceases to be a Director of the Company and (ii) a Change in Control (as defined in the Plan).

   e) Dividend equivalents on the RSUs issued hereunder are deferred, credited with interest quarterly at the same rate as five-year U.S. government bonds and paid out in cash at the same time the corresponding portion of the award becomes payable.

   f) The Company shall make payment of the RSUs in Company common stock.

   g) Each director may, subject to any conditions deemed appropriate from time to time by the Human Resources Committee, defer the delivery of the Equity

Retainer until the termination of such director's service on the Board in accordance with Section 409A of the Internal Revenue Code of 1986, as amended (including the appl icable regulations thereunder) using such deferral election form as approved by the Human Resources Committee from time to time .

3) General .

a) If any director joins the Board on a date other than the date of the Company's Annual Meeting, then a pro-rata portion of each of the applicable Cash Retainer and Equity Retainer from the date joined to the next Annual Meeting date shall be granted.

Each director is expected to comply with the terms of any stock ownership guidelines for non-employee directors that are established by the Company, as in effect from time to time.

Effective as of October 30, 2018

Exhibit 21.1

LSC Communications, Inc.
Subsidiaries as of February 19, 2019

Entity Name	Entity Type	Domestic Jurisdiction	Country
American Pad and Paper de Mexico S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
Cardinal Brands Fabricacion S. de R.L. de C.V.	Limited Liability Company	Tamaulipas	Mexico
Clark Distribution Systems, Inc.	Corporation	Delaware	United States
Clark Group, Inc., The	Corporation	Delaware	United States
Clark Holdings Inc.	Corporation	Delaware	United States
Clark Worldwide Transportation, Inc.	Corporation	Pennsylvania	United States
Continuum Management Company, LLC	Limited Liability Company	Delaware	United States
Courier Communications LLC	Limited Liability Company	Massachusetts	United States
Courier Companies, Inc.	Corporation	Massachusetts	United States
Courier Kendallville, Inc.	Corporation	Indiana	United States
Courier New Media, Inc.	Corporation	Massachusetts	United States
Courier Properties, Inc.	Corporation	Massachusetts	United States
Courier Publishing, Inc.	Corporation	Massachusetts	United States
Creel Printing, LLC	Limited Liability Company	Delaware	United States
Dover Publications, Inc.	Corporation	New York	United States
F.T.C. Services, Inc.	Corporation	Illinois	United States
F.T.C. Transport, Inc.	Corporation	Illinois	United States
Fairrington, LLC	Limited Liability Company	Delaware	United States
LibreDigital, Inc.	Corporation	Delaware	United States
LSC Communications Almacen, S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
LSC Communications Canada Corporation	Unlimited Company	Nova Scotia	Canada
LSC Communications Canada Holdings ULC	Unlimited Company	Nova Scotia	Canada
LSC Communications Holdings B.V.	Private Limited Liability Company	Netherlands	Netherlands
LSC Communications MM LLC	Limited Liability Company	Delaware	United States
LSC Communications Netherlands B.V.	Private Limited Liability Company	Netherlands	Netherlands
LSC Communications OP sp. z.o.o.	Limited Liability Company	Poland	Poland
LSC Communications Pendaflex Mexico, S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
LSC Communications Printing Company	Corporation	Delaware	United States
LSC Communications sp. z o.o.	Limited Liability Company	Poland	Poland
LSC Communications UK Limited	Private Limited Company	England and Wales	United Kingdom
LSC Communications US, LLC	Limited Liability Company	Delaware	United States
LSC International Holdings, Inc.	Corporation	Delaware	United States
LSC Pendaflex de Reynosa, S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
Moore-Langen Printing Company, Inc.	Corporation	Indiana	United States
National Publishing Company	Corporation	Pennsylvania	United States
Print LSC Communications, S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
Print LSC Mexico S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
Print LSC Operaciones, S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
Publishers Press, LLC	Limited Liability Company	Delaware	United States
Quality Park, LLC	Limited Liability Company	Delaware	United States
Research & Education Association, Inc.	Corporation	Delaware	United States
TOPS SLT Holdings S. de R.L. de C.V.	Limited Liability Company	Mexico	Mexico
TriLiteral LLC	Limited Liability Company	Delaware	United States

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-213913 on Form S-8, and Registration Statement No. 333-220762 on Form S-3 filed by LSC Communications, Inc., and Registration Statement No. 333-228752 on Form S-4 filed by Quad/Graphics, Inc. of our report dated February 19, 2019, relating to (1) the consolidated and combined financial statements of LSC Communications, Inc. and subsidiaries (the "Company") (which report expresses an unqualified opinion and includes explanatory paragraphs related to the change in accounting principle due to the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers, and the basis of presentation of the consolidated and combined financial statements) and (2) the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of LSC Communications, Inc. for the year ended December 31, 2018.

/s/ DELOITTE & TOUCHE LLP
Chicago, Illinois
February 19, 2019

Exhibit 24.1

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Suzanne S. Bettman, Andrew B. Coxhead and Kent A. Hansen, or any of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, in any and all capacities, to sign the Annual Report on Form 10-K of LSC Communications, Inc. for its fiscal year ended December 31, 2018 and any and all amendments thereto, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or her substitute, may lawfully do or cause to be done by virtue hereof. This Power of Attorney shall be effective from the date on which it is signed until June 30, 2019.

Dated: February 14, 2019

/s/ M. Shân Atkins

M. Shân Atkins

/s/ Margaret A. Breya

Margaret A. Breya

/s/ Judith H. Hamilton

Judith H. Hamilton

/s/ Francis J. Jules

Francis J. Jules

/s/ Thomas F. O’Toole

Thomas F. O’Toole

/s/ Richard K. Palmer

Richard K. Palmer

/s/ Douglas W. Stotlar

Douglas W. Stotlar

/s/ Shivan S. Subramaniam

Shivan S. Subramaniam

Exhibit 31.1

Certification Pursuant to Rule 13a-14(a) and Rule 15d-14(a)
of the Securities Exchange Act of 1934

I, Thomas J. Quinlan, III, certify that:

1. I have reviewed this Annual Report on Form 10-K of LSC Communications, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 19, 2019

/s/ THOMAS J. QUINLAN, III
Thomas J. Quinlan, III
Chairman and Chief Executive Officer

Exhibit 31.2

Certification Pursuant to Rule 13a-14(a) and Rule 15d-14(a)
of the Securities Exchange Act of 1934

I, Andrew B. Coxhead, certify that:

1. I have reviewed this Annual Report on Form 10-K of LSC Communications, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 19, 2019

/s/ ANDREW B. COXHEAD

Andrew B. Coxhead
Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

**CERTIFICATION PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)
AND SECTION 1350 OF CHAPTER 63 OF TITLE 18
OF THE UNITED STATES CODE (18 U.S.C. 1350),
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of LSC Communications, Inc. (the "Company") on Form 10-K for the period ending December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas J. Quinlan, III, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 19, 2019

/s/ THOMAS J. QUINLAN, III

Thomas J. Quinlan, III
Chairman and Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

**CERTIFICATION PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)
AND SECTION 1350 OF CHAPTER 63 OF TITLE 18
OF THE UNITED STATES CODE (18 U.S.C. 1350),
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of LSC Communications (the "Company") on Form 10-K for the period ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Andrew B. Coxhead, Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 19, 2019

/s/ ANDREW B. COXHEAD

Andrew B. Coxhead
Chief Financial Officer