ARROW ELECTRONICS INC
Form 10-K
February 07, 2019

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

FORM 10-K

x 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

o 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 1-4482

ARROW ELECTRONICS INC

(Exact name of registrant as specified in its charter)

New York	**11-1806155**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
9201 East Dry Creek Road, Centennial, Colorado	**80112**
(Address of principal executive offices)	(Zip Code)
(303) 824-4000	
(Registrant's telephone number, including area code)	

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

Title of each class	Name of each exchange on which registered
Common Stock, $1 par value	New York Stock Exchange

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

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

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

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the 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. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or 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 x	Accelerated filer o
Non-accelerated filer o	Smaller reporting company o
	Emerging growth company o

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. o

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

The aggregate market value of voting stock held by non-affiliates of the registrant as of the last business day of the registrant's most recently completed second fiscal quarter was $6,477,885,555.

There were 84,917,353 shares of Common Stock outstanding as of February 1, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

The definitive proxy statement related to the registrant's Annual Meeting of Shareholders, to be held May 9, 2019 is incorporated by reference in Part III to the extent described therein.

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PART I
Item 1. Business.

Arrow Electronics, Inc. (the "company" or "Arrow") is a global provider of products, services, and solutions to industrial and commercial users of electronic components and enterprise computing solutions. The company has one of the world’s broadest portfolios of product offerings available from leading electronic components and enterprise computing solutions suppliers, coupled with a range of services, solutions, and tools that help industrial and commercial customers introduce innovative products, reduce their time to market, and enhance their overall competitiveness. Arrow was incorporated in New York in 1946 and serves over 200,000 customers.

Arrow's diverse worldwide customer base consists of original equipment manufacturers ("OEMs"), value-added resellers ("VARs"), Managed Service Providers ("MSPs"), contract manufacturers ("CMs"), and other commercial customers. These customers include manufacturers of industrial equipment (such as machine tools, factory automation, and robotic equipment) and consumer products serving industries ranging from telecommunications, automotive and transportation, aerospace and defense, medical, professional services, and alternative energy, among others.

The company has two business segments, the global components business and the global enterprise computing solutions ("ECS") business. The company distributes electronic components to OEMs and CMs through its global components business segment and provides enterprise computing solutions to VARs and MSPs through its global ECS business segment. For 2018, approximately 70% of the company's sales were from the global components business segment, and approximately 30% of the company's sales were from the global ECS business segment. The financial information about the company's business segments and geographic operations is found in Note 16 to the Consolidated Financial Statements.

The company maintains over 300 sales facilities and 49 distribution and value-added centers, serving over 80 countries. Both business segments have operations in each of the three largest electronics markets; the Americas; Europe, Middle East, and Africa ("EMEA"); and Asia Pacific regions. Through this network, Arrow guides innovation forward by helping its customers deliver new technologies, new materials, new ideas, and new electronics that impact the business community and consumers.

The company's financial objectives are to grow sales faster than the market, increase the markets served, grow profits faster than sales, and increase return on invested capital. To achieve its objectives, the company seeks to capture significant opportunities to grow across products, markets, and geographies. To supplement its organic growth strategy, the company continually evaluates strategic acquisitions to broaden its product and value-added service offerings, increase its market penetration, and expand its geographic reach.

Global Components

Global components markets and distributes electronic components and provides a comprehensive range of value-added capabilities throughout the entire life cycle of technology products and services. The company provides customers with the ability to deliver the latest technologies to the market through design engineering, global marketing and integration, global logistics, and supply chain management. The company offers the convenience of accessing, from a single source, multiple technologies and products from its suppliers with rapid or scheduled deliveries. Additionally, the company offers expertise in sustainable technology solutions to guide enterprise customers through the entire technology life cycle. Most of the company's customers require delivery of their orders on schedules or volumes that are generally not available on direct purchases from manufacturers.

Within the global components business segment, net sales of approximately 68% consist of semiconductor products and related services; approximately 19% consist of passive, electro-mechanical, and interconnect products, consisting primarily of capacitors, resistors, potentiometers, power supplies, relays, switches, and connectors; approximately 10% consist of computing and memory; and approximately 3% consist of other products and services.

Over the past three years, the global components business segment completed 6 strategic acquisitions to broaden its digital capabilities to meet the evolving needs of customers and suppliers. These acquisitions also expanded the global components business segment's portfolio of products and services offerings at every phase of technology deployment, including custom hardware and software, and new Internet of Things based business models.

Global ECS

The company's global ECS business segment is a leading value-added provider of comprehensive computing solutions and services. Global ECS' portfolio of computing solutions includes data-center, cloud, security, and analytics solutions. Global ECS brings broad market access, extensive supplier relationships, scale, and resources to help its VARs and MSPs meet the needs of their end-users. Global ECS works with VARs and MSPs to tailor complex IT solutions for their end-users. Customers have access to various services including engineering and integration support, warehousing and logistics, marketing resources, and authorized hardware and software training. Global ECS' suppliers benefit from demand creation, speed to market, and efficient supply chain management.

Within the global ECS business segment, net sales of approximately 39% consist of software, 37% consist of storage, 12% consist of industry standard servers, 6% consist of proprietary servers, and 6% consist of other products and services.

Over the past three years, the global ECS business segment completed two strategic acquisitions to further expand its portfolio of products. Aligned with the vision of guiding innovation forward in the IT channel, the company is investing in emerging and adjacent markets, such as managed services and unified computing, within the ECS business.

Customers and Suppliers

The company and its affiliates serve over 200,000 industrial and commercial customers. Industrial customers range from major OEMs and CMs to small engineering firms, while commercial customers primarily include VARs, MSPs, and OEMs. No single customer accounted for more than 2% of the company's 2018 consolidated sales.

The company's sales teams focus on an extensive portfolio of products and services to support customers' material management and production needs, including connecting customers to the company's field application engineers that provide technical support and serve as a gateway to the company's supplier partners. The company's sales representatives generally focus on a specific customer segment, particular product lines or a specific geography, and provide end-to-end product offerings and solutions with an emphasis on helping customers introduce innovative products, reduce their time to market, and enhance their overall competitiveness.

Substantially all of the company's sales are made on an order-by-order basis, rather than through long-term sales contracts. As such, the nature of the company's business does not provide visibility of material forward-looking information from its customers and suppliers beyond a few months.

No single supplier accounted for more than 10% of the company's consolidated sales in 2018. The company believes that many of the products it sells are available from other sources at competitive prices. However, certain parts of the company's business, such as the company's global ECS business segment, rely on a limited number of suppliers with the strategy of providing focused support, extensive product knowledge, and customized service to suppliers and VARs. Most of the company's purchases are pursuant to distributor agreements, which are typically non-exclusive and cancelable by either party at any time or on short notice.

Distribution Agreements

Certain agreements with suppliers protect the company against the potential write-down of inventories due to technological change or suppliers' price reductions. These contractual provisions typically provide certain protections to the company for product obsolescence and price erosion in the form of return privileges, scrap allowances, and price protection. Under the terms of the related distributor agreements and assuming the company complies with certain conditions, such suppliers are required to credit the company for reductions in suppliers' list prices. As of

December 31, 2018, this type of arrangement covered approximately 49% of the company's consolidated inventories. In addition, under the terms of many such agreements, the company has the right to return to the supplier, for credit, a defined portion of those inventory items purchased within a designated period of time.

A supplier, which elects to terminate a distribution agreement, may be required to purchase from the company the total amount of its products carried in inventory. As of December 31, 2018, this type of repurchase arrangement covered approximately 54% of the company's consolidated inventories.

While these inventory practices do not wholly protect the company from inventory losses, the company believes that they currently provide substantial protection from such losses.

Competition

The company operates in a highly competitive environment, both in the United States and internationally. The company competes with other large multinational and national electronic components and enterprise computing solutions distributors, as well as numerous other smaller, specialized competitors who generally focus on narrower markets, products, or particular sectors. The company also competes for customers with its suppliers. The size of the company's competitors vary across markets sectors, as do the resources the company has allocated to the sectors in which it does business. Therefore, some of the company's competitors may have a more extensive customer and/or supplier base than the company in one or more of its market sectors. There is significant competition within each market sector and geography served that creates pricing pressure and the need to continually improve services. Other competitive factors include rapid technological changes, product availability, credit availability, speed of delivery, ability to tailor solutions to customer needs, quality and depth of product lines and training, as well as service and support provided by the distributor to the customer.

The company also faces competition from companies entering or expanding into the logistics and product fulfillment, electronic catalog distribution, and e-commerce supply chain services markets. As the company seeks to expand its business into new areas in order to stay competitive in the market, the company may encounter increased competition from its current and/or new competitors.

The company believes that it is well equipped to compete effectively with its competitors in all of these areas due to its comprehensive product and service offerings, highly-skilled work force, and global distribution network.

Employees

The company and its affiliates employed approximately 20,100 employees worldwide as of December 31, 2018.

Available Information

The company files its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statements, and other documents with the U.S. Securities and Exchange Commission ("SEC") under the Securities Exchange Act of 1934. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The company's SEC filings are available to the public on the SEC's Web site at http://www.sec.gov and through the New York Stock Exchange ("NYSE"), 11 Wall Street, New York, New York 10005, on which the company's common stock is listed.

A copy of any of the company's filings with the SEC, or any of the agreements or other documents that constitute exhibits to those filings, can be obtained by request directed to the company at the following address and telephone number:

Arrow Electronics, Inc.
9201 East Dry Creek Road
Centennial, Colorado 80112
(303) 824-4000
Attention: Corporate Secretary

The company also makes these filings available, free of charge, through its website (http://www.arrow.com) as soon as reasonably practicable after the company files such materials with the SEC. The company does not intend this internet address to be an active link or to otherwise incorporate the contents of the website into this Annual Report on Form 10-K.

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Executive Officers

The following table sets forth the names, ages, and the positions held by each of the executive officers of the company as of February 7, 2019:

Name	Age	Position
Michael J. Long	60	Chairman, President, and Chief Executive Officer
Matt Anderson	40	Senior Vice President, Chief Digital Officer
Sean J. Kerins	56	President, Arrow Global Enterprise Computing Solutions
Andy King	55	President, Arrow Global Components
Chuck Kostalnick	53	Senior Vice President, Chief Supply Chain Officer
Vincent P. Melvin	55	Senior Vice President, Chief Information Officer
M. Catherine Morris	60	Senior Vice President, Chief Strategy Officer
Chris D. Stansbury	53	Senior Vice President, Chief Financial Officer
Gregory P. Tarpinian	57	Senior Vice President, Chief Legal Officer
Gretchen K. Zech	49	Senior Vice President, Chief Human Resources Officer

Set forth below is a brief account of the business experience during the past five years of each executive officer of the company.

Michael J. Long has been Chairman of the Board of Directors, President, and Chief Executive Officer of the company for more than five years.

Matt Anderson was appointed Senior Vice President, Chief Digital Officer in July 2017. Prior thereto he served as Chief Digital Officer from October 2014 to June 2017. Prior to joining Arrow he served as General Manager and Chief Digital Officer at Hibu from January 2013 to September 2014.

Sean J. Kerins was appointed President of Arrow Global Enterprise Computing Solutions in May 2014. Prior thereto he served as President of North America Enterprise Computing Solutions from July 2010 to May 2014.

Andy King was appointed President of Arrow Global Components in November 2015. Prior thereto he served as President of EMEA Components from November 2013 to November 2015.

Chuck Kostalnick was appointed Senior Vice President, Chief Supply Chain Officer in July 2017. Prior thereto he served as President, Arrow Sustainable Technology Solutions from August 2016 to July 2017. Before joining Arrow he served as Executive Vice President and Chief Business Officer at Sanmina from September 2013 to July 2016.

Vincent P. Melvin has been Senior Vice President and Chief Information Officer of the company for more than five years.

M. Catherine Morris has been Senior Vice President and Chief Strategy Officer of the company for more than five years.

Chris D. Stansbury was appointed Senior Vice President and Chief Financial Officer in May 2016. Prior thereto he served as Vice President, Finance and Chief Accounting Officer from August 2014 to May 2016. Prior to joining Arrow he served as the Vice President, Finance and Chief Financial Officer for Hewlett Packard’s Global Networking business from September 2013 to July 2014.

Gregory P. Tarpinian was appointed Senior Vice President and Chief Legal Officer in January 2015. Prior thereto he served as the Vice President of Legal Affairs for more than five years.

Gretchen K. Zech has been Senior Vice President and Chief Human Resources Officer of the company for more than five years.

Item 1A. Risk Factors.

Described below and throughout this report are certain risks that the company's management believes are applicable to the company's business and the industries in which it operates. If any of the described events occur, the company's business, results of operations, financial condition, liquidity, or access to the capital markets could be materially adversely affected. When stated below that a risk may have a material adverse effect on the company's business, it means that such risk may have one or more of these effects. There may be additional risks that are not presently material or known. There are also risks within the economy, the industry, and the capital markets that could materially adversely affect the company, including those associated with an economic recession, inflation, a global economic slowdown, political instability, employee attraction and retention, and those associated with customers' inability or refusal to pay for the products and services provided by the company. There are also risks associated with the occurrence of natural disasters such as tsunamis, hurricanes, tornadoes, and floods. These factors affect businesses generally, including the company, its customers and suppliers and, as a result, are not discussed in detail below, but are applicable to the company. Included below are some risks pertaining to specific government regulation, however, not all regulations applicable to the company or unanticipated regulation changes (such as changes in tax regulations in the various geographies we operate) have been described. The continuing expansion of government laws and regulations, some that may apply specifically to the company's industry and others to the market generally, as well as any actions taken by activist investors, could negatively impact the company's profitability.

If the company is unable to maintain its relationships with its suppliers or if the suppliers materially change the terms of their existing agreements with the company, the company's business could be materially adversely affected.

A substantial portion of the company's inventory is purchased from suppliers with which the company has entered into non-exclusive distribution agreements. These agreements are typically cancelable on short notice (generally 30 to 90 days). Some of the company's businesses rely on a limited number of suppliers to provide a high percentage of their revenues. For example, sales of products from one of the company's suppliers accounted for approximately 9% of the company's consolidated sales. To the extent that the company's significant suppliers reduce the number of products they sell through distribution, are unwilling to continue to do business with the company, or are unable to continue to meet or significantly alter their obligations, the company's business could be materially adversely affected. In addition, to the extent that the company's suppliers modify the terms of their contracts to the detriment of the company, limit supplies due to capacity constraints, or other factors, there could be a material adverse effect on the company's business. Further, the supplier landscape has experienced a consolidation, which could negatively impact the company if the surviving, consolidated suppliers decide to exclude the company from their supply chain efforts.

The competitive pressures the company faces could have a material adverse effect on the company's business.

The company operates in a highly competitive international environment. The company competes with other large multinational and national electronic components and enterprise computing solutions distributors, as well as numerous other smaller, specialized competitors who generally focus on narrower markets, products, industries, or particular sectors. The company also competes for customers with its suppliers. The size of the company's competitors vary across market sectors, as do the resources the company has allocated to the sectors in which it does business. Therefore, some of the company's competitors may have a more extensive customer and/or supplier base than the company in one or more of its market sectors. There is significant competition within each market sector and geography that creates pricing pressure and the need for constant attention to improve services. Other competitive factors include rapid technological changes, product availability, credit availability, speed of delivery, ability to tailor solutions to customer needs, quality and depth of product lines and training, as well as service and support provided by the distributor to the customer. The company also faces competition from companies in the logistics and product fulfillment, catalog distribution, and e-commerce supply chain services markets. As the company continues to expand its business into new areas in order to stay competitive in the market, such as in the area of the "Internet of Things"

and its expansion in the digital market, the company may encounter increased competition from its current and/or new competitors. The company's failure to maintain and enhance its competitive position could have a material adverse effect on its business.

The company may not be able to adequately anticipate, prevent, or mitigate damage resulting from criminal and other illegal or fraudulent activities committed against it.

It is clear that global businesses like ours are facing increasing risks of criminal, illegal, and other fraudulent acts. The evolving nature of such threats, in light of new and sophisticated methods used by criminals, including phishing, misrepresentation, social engineering and forgery, are making it increasingly difficult for us to anticipate and adequately mitigate these risks. In addition, designing and implementing measures to defend against, prevent, and detect these types of activities are increasingly costly and invasive into the operations of the business. As a result, we could experience a material loss in the future to the extent that controls and other measures we implement to address these threats fail to prevent or detect such acts.

Products sold by the company may be found to be defective and, as a result, warranty and/or product liability claims may be asserted against the company, which may have a material adverse effect on the company.

The company sells its components at prices that are significantly lower than the cost of the equipment or other goods in which they are incorporated. As a result, the company may face claims for damages (such as consequential damages) that are disproportionate to the revenues and profits it receives from the components involved in the claims. While the company typically has provisions in its supplier agreements that hold the supplier accountable for defective products, and the company and its suppliers generally exclude consequential damages in their standard terms and conditions, the company's ability to avoid such liabilities may be limited as a result of differing factors, such as the inability to exclude such damages due to the laws of some of the countries where it does business. The company's business could be materially adversely affected as a result of a significant quality or performance issue in the products sold by the company, if it is required to pay for the associated damages. Although the company currently has product liability insurance, such insurance is limited in coverage and amount. Further, when relying on contractual liability exclusions, the company could lose customers if their claims are not addressed to their satisfaction.

Declines in value and other factors pertaining to the company's inventory could materially adversely affect its business.

The market for the company's products and services is subject to rapid technological change, evolving industry standards, changes in end-market demand, oversupply of product, and regulatory requirements, which can contribute to the decline in value or obsolescence of inventory. Although most of the company's suppliers provide the company with certain protections from the loss in value of inventory (such as price protection and certain rights of return), the company cannot be sure that such protections will fully compensate it for the loss in value, or that the suppliers will choose to, or be able to, honor such agreements. For example, many of the company's suppliers will not allow products to be returned after they have been held in inventory beyond a certain amount of time, and, in most instances, the return rights are limited to a certain percentage of the amount of product the company purchased in a particular time frame. All of these factors pertaining to inventory could have a material adverse effect on the company's business.

The company is subject to environmental laws and regulations that could materially adversely affect its business.

A number of jurisdictions in which the company's products are sold have enacted laws addressing environmental and other impacts from product disposal, use of hazardous materials in products, use of chemicals in manufacturing, recycling of products at the end of their useful life, and other related matters. These laws prohibit the use of certain substances in the manufacture of the company's products and impose a variety of requirements for modification of manufacturing processes, registration, chemical testing, labeling, and other matters. Failure to comply with these laws or any other applicable environmental regulations could result in fines or suspension of sales. Additionally, these directives and regulations may result in the company having non-compliant inventory that may be less readily salable or have to be written off.

Some environmental laws impose liability, sometimes without fault, for investigating or cleaning up contamination on or emanating from the company's currently or formerly owned, leased, or operated property, as well as for damages to property or natural resources and for personal injury arising out of such contamination. As the distribution business, in general, does not involve the manufacture of products, it is typically not subject to significant liability in this area. However, there may be occasions, including through acquisitions, where environmental liability arises. Two sites for which the company assumed responsibility as part of the Wyle Electronics ("Wyle") acquisition are known to have environmental issues, one at Norco, California and the other at Huntsville, Alabama. The company was also named as a defendant in a private lawsuit filed in connection with alleged contamination at a small industrial building formerly leased by Wyle Laboratories in El Segundo, California. The lawsuit was settled, but the possibility remains that

government entities or others may attempt to involve the company in further characterization or remediation of groundwater issues in the area. The presence of environmental contamination could also interfere with ongoing operations or adversely affect the company's ability to sell or lease its properties. The discovery of contamination for which the company is responsible, the enactment of new laws and regulations, or changes in how existing requirements are enforced, could require the company to incur costs for compliance or subject it to unexpected liabilities.

Expansion into the electronic asset disposition market has broadened the company's risk profile.

The company provides services related to electronic devices being disposed of by business customers. These services include, the data sanitation of storage devices from customer equipment and either recycling the equipment through resale or disposing of it in an environmentally compliant manner. The company may also hold equipment in order to protect and preserve customer data. If the company does not meet its contractual and regulatory obligations with respect to such data, it could be subject to financial damages, penalties, and damage to reputation. Also, the company's or its subcontractors' failure to comply with applicable environmental laws and regulations in disposing of the equipment could result in liability. Such environmental liability may be

joint and several, meaning that the company could be held responsible for more than its share of the liability involved. To the extent that company fails to comply with its obligations and such failure is not covered by insurance, the company's business could be adversely affected.

The company may not have adequate or cost-effective liquidity or capital resources.

The company requires cash or committed liquidity facilities for general corporate purposes, such as funding its ongoing working capital, acquisitions, and capital expenditure needs, as well as to refinance indebtedness. At December 31, 2018, the company had cash and cash equivalents of $509.3 million. In addition, the company currently has access to committed credit lines of $2.0 billion and a committed asset securitization program of $1.2 billion, of which the company had outstanding borrowings of $810.0 million at December 31, 2018. The company's ability to satisfy its cash needs depends on its ability to generate cash from operations and to access the financial markets, both of which are subject to general economic, financial, competitive, legislative, regulatory, and other factors that are beyond its control.

The company may, in the future, need to access the financial markets to satisfy its cash needs. The company's ability to obtain external financing is affected by various factors including general financial market conditions and the company's debt ratings. Further, any increase in the company's level of debt, change in status of its debt from unsecured to secured debt, or deterioration of its operating results may cause a reduction in its current debt ratings. Any downgrade in the company's current debt rating or tightening of credit availability could impair the company's ability to obtain additional financing or renew existing credit facilities on acceptable terms. Under the terms of any external financing, the company may incur higher financing expenses and become subject to additional restrictions and covenants. For example, the company's existing debt agreements contain restrictive covenants, including covenants requiring compliance with specified financial ratios, and a failure to comply with these or any other covenants may result in an event of default. An increase in the company's financing costs or loss of access to cost-effective capital resources could have a material adverse effect on the company's business.

The agreements governing some of the company's financing arrangements contain various covenants and restrictions that limit some of management's discretion in operating the business and could prevent the company from engaging in some activities that may be beneficial to its business.

The agreements governing the company's financings contain various covenants and restrictions that, in certain circumstances, could limit its ability to:

- grant liens on assets;
- make investments;
- merge, consolidate, or transfer all or substantially all of its assets;
- incur additional debt; or
- engage in certain transactions with affiliates.

As a result of these covenants and restrictions, the company may be limited in how it conducts its business and may be unable to raise additional debt, compete effectively, or make investments.

The company's lack of long-term sales contracts may have a material adverse effect on its business.

Most of the company's sales are made on an order-by-order basis, rather than through long-term sales contracts. The company generally works with its customers to develop non-binding forecasts for future orders. Based on such non-binding forecasts, the company makes commitments regarding the level of business that it will seek and accept, the inventory that it purchases, and the levels of utilization of personnel and other resources. A variety of conditions, both specific to each customer and generally affecting each customer's industry may cause customers to cancel,

reduce, or delay orders that were either previously made or anticipated, file for bankruptcy protection or fail, or default on their payments. Generally, customers cancel, reduce, or delay purchase orders and commitments without penalty. The company seeks to mitigate these risks, in some cases, by entering into noncancelable/nonreturnable sales agreements, but there is no guarantee that such agreements will adequately protect the company. Significant or numerous cancellations, reductions, delays in orders by customers, loss of customers, and/or customer defaults on payments could materially adversely affect the company's business.

The company's revenues originate primarily from the sales of semiconductor, PEMCO (passive, electro-mechanical and connector), IT hardware and software products, the sales of which are traditionally cyclical.

The semiconductor industry historically has experienced fluctuations in product supply and demand, often associated with changes in technology and manufacturing capacity and subject to significant economic market upturns and downturns. Sales of

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semiconductor products and related services represented approximately 45%, 46%, and 42% of the company's consolidated sales in 2018, 2017, and 2016, respectively. The sale of the company's PEMCO products closely tracks the semiconductor market. Accordingly, the company's revenues and profitability, particularly in its global components business segment, tend to closely follow the strength or weakness of the semiconductor market. Further, economic weakness could cause a decline in spending in information technology, which could have a negative impact on the company's ECS business. A cyclical downturn in the technology industry could have a material adverse effect on the company's business and negatively impact its ability to maintain historical profitability levels.

The company's non-U.S. sales represent a significant portion of its revenues, and consequently, the company is exposed to risks associated with operating internationally.

In 2018, 2017, and 2016, approximately 59%, 58%, and 57%, respectively, of the company's sales came from its operations outside the United States. As a result of the company's international sales and locations, its operations are subject to a variety of risks that are specific to international operations, including the following:

- import and export regulations that could erode profit margins or restrict exports;
- the burden and cost of compliance with international laws, treaties, and technical standards and changes in those regulations;
- potential restrictions on transfers of funds;
- import and export duties and value-added taxes;
- transportation delays and interruptions;
- the burden and cost of compliance with complex multi-national tax laws and regulations;
- uncertainties arising from local business practices and cultural considerations;
- enforcement of the Foreign Corrupt Practices Act, or similar laws of other jurisdictions;
- foreign laws that potentially discriminate against companies which are headquartered outside that jurisdiction;
- volatility associated with sovereign debt of certain international economies;
- the uncertainty surrounding the implementation and effects of Brexit;
- potential military conflicts and political risks; and
- currency fluctuations, which the company attempts to minimize through traditional hedging instruments.

Furthermore, products the company sells which are either manufactured in the United States or based on U.S. technology ("U.S. Products") are subject to the Export Administration Regulations ("EAR") when exported and re-exported to and from all international jurisdictions, in addition to the local jurisdiction's export regulations applicable to individual shipments. Licenses or proper license exemptions may be required by local jurisdictions' export regulations, including EAR, for the shipment of certain U.S. Products to certain countries, including China, India, Russia, and other countries in which the company operates. Non-compliance with the EAR or other applicable export regulations can result in a wide range of penalties including the denial of export privileges, fines, criminal penalties, and the seizure of inventories. In the event that any export regulatory body determines that any shipments made by the company violate the applicable export regulations, the company could be fined significant sums and/or its export capabilities could be restricted, which could have a material adverse effect on the company's business.

Also, the company's gross margins in the components business in the Asia/Pacific region tend to be lower than those in the other markets in which the company sells products and services. If sales in this market increase as a percentage of overall sales, consolidated gross margins will be lower. While the company has and will continue to adopt measures to reduce the potential impact of losses resulting from the risks of doing business abroad, it cannot ensure that such measures will be adequate and, therefore, could have a material adverse effect on its business.

Moreover, our effective tax rate may be adversely impacted by, among other things, changes in the mix of our earnings among countries having different statutory tax rates, changes in the valuation of deferred tax assets, and

certain international tax policy efforts, including the Organization for Economic Co-operation and Development's ("OECD") Base Erosion and Profit Shifting ("BEPS") Project, the European Commission's state aid investigations, and other initiatives adversely affecting taxation of international businesses. Furthermore, many of the countries where we are subject to taxes are independently evaluating their tax policy and some have already passed tax legislation which affect international businesses. For instance, on December 22, 2017, the U.S. federal government enacted tax legislation ("Tax Act"), which significantly changed the tax laws by favorably reducing the corporate federal tax rate (35% to 21%) and moving to a territorial system, while simultaneously imposing an unfavorable one-time tax on accumulated foreign earnings, limiting deductibility of certain import related costs, including interest expense, and creating a new tax on certain international activities. Additionally, our tax returns are subject to periodic audits by U.S. and foreign tax authorities, and these audits may result in allocations of income and/or deductions that may result in tax assessments different from amounts that we have estimated. We regularly assess the likelihood of adverse outcomes resulting from these audits to determine the adequacy of our provision for taxes. Such tax changes, to the extent they are brought against us, could increase

our effective tax rates in many of the countries where we have operations and ultimately have an adverse effect on our overall tax liability, along with increasing the complexity, burden and cost of tax compliance, all of which could impact our operating results, cash flows, and financial condition.

When the company makes acquisitions, it may take on additional liabilities or not be able to successfully integrate such acquisitions.

As part of the company's history and growth strategy, it has acquired other businesses. Acquisitions involve numerous risks, including the following:

- effectively combining the acquired operations, technologies, or products;
- unanticipated costs or assumed liabilities, including those associated with regulatory actions or investigations;
- not realizing the anticipated financial benefit from the acquired companies;
- diversion of management's attention;
- negative effects on existing customer and supplier relationships; and
- potential loss of key employees, especially those of the acquired companies.

Further, the company has made, and may continue to make acquisitions of, or investments in new services, businesses or technologies to expand its current service offerings and product lines. Some of these may involve risks that may differ from those traditionally associated with the company's core distribution business, including undertaking product or service warranty responsibilities that in its traditional core business would generally reside primarily with its suppliers. If the company is not successful in mitigating or insuring against such risks, it could have a material adverse effect on the company's business.

The company's goodwill and identifiable intangible assets could become impaired, which could reduce the value of its assets and reduce its net income in the year in which the write-off occurs.

Goodwill represents the excess of the cost of an acquisition over the fair value of the assets acquired. The company also ascribes value to certain identifiable intangible assets, which consist primarily of customer relationships and trade names, among others, as a result of acquisitions. The company may incur impairment charges on goodwill or identifiable intangible assets if it determines that the fair values of the goodwill or identifiable intangible assets are less than their current carrying values. The company evaluates, on a regular basis, whether events or circumstances have occurred that indicate all, or a portion, of the carrying amount of goodwill or identifiable intangible assets may no longer be recoverable, in which case an impairment charge to earnings would become necessary.

Refer to Notes 1 and 3 of the Notes to the Consolidated Financial Statements and 'Critical Accounting Policies' in Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion of the impairment testing of goodwill and identifiable intangible assets.

A decline in general economic conditions, a substantial increase in market interest rates, or the company’s inability to meet long term working capital or operating income projections could impact future valuations of the company's reporting units, and the company could be required to record an impairment charge in the future, which could impact the company's consolidated balance sheet, as well as the company's consolidated statement of operations. If the company was required to recognize an impairment charge in the future, the charge would not impact the company's consolidated cash flows, current liquidity, capital resources, and covenants under its existing revolving credit facility, asset securitization program, and other outstanding borrowings.

If the company fails to maintain an effective system of internal controls or discovers material weaknesses in its internal controls over financial reporting, it may not be able to report its financial results accurately or timely or detect fraud, which could have a material adverse effect on its business.

An effective internal control environment is necessary for the company to produce reliable financial reports, safeguard assets, and is an important part of its effort to prevent financial fraud. The company is required to annually evaluate the effectiveness of the design and operation of its internal controls over financial reporting. Based on these evaluations, the company may conclude that enhancements, modifications, or changes to internal controls are necessary or desirable. While management evaluates the effectiveness of the company's internal controls on a regular basis, these controls may not always be effective. There are inherent limitations on the effectiveness of internal controls, including collusion, management override, and failure in human judgment. In addition, control procedures are designed to reduce rather than eliminate financial statement risk. If the company fails to maintain an effective system of internal controls, or if management or the company's independent registered public accounting firm discovers material weaknesses in the company's internal controls, it may be unable to produce reliable financial reports or prevent fraud, which could have a material adverse effect on the company's business. In addition, the company may be subject

to sanctions or investigation by regulatory authorities, such as the SEC or the NYSE. Any such actions could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of the company's financial statements, which could cause the market price of its common stock to decline or limit the company's access to capital.

Cyber security and privacy breaches may hurt the company’s business, damage its reputation, increase its costs, and cause losses.

The company’s information technology systems could be subject to invasion, cyber-attack, or data privacy breaches by employees, others with authorized access, and unauthorized persons. Such attacks could result in disruption to the company’s operations, loss or disclosure of, or damage to, the company’s or any of its customer’s or supplier’s data, confidential information, or reputation. The company’s information technology systems security measures may also be breached due to employee error, malfeasance, or otherwise. Additionally, outside parties may attempt to fraudulently induce employees, customers or suppliers to disclose sensitive information in order to gain access to the company’s data and information technology systems. Any such breach could result in significant legal and financial exposure, damage to the company’s reputation, loss of competitive advantage, and a loss of confidence in the security of the company’s information technology systems that could potentially have an impact on the company’s business. Because the techniques used to obtain unauthorized access, disable or degrade, or sabotage the company’s information technology systems change frequently and often are not recognized until launched, the company may be unable to anticipate these techniques or to implement adequate preventive measures. Further, third parties, such as hosted solution providers, that provide services for the company’s operations, could also be a source of security risk in the event of a failure of their own security systems and infrastructure. In addition, sophisticated hardware and operating system software and applications that the company procures from third parties may contain defects in design or manufacture, including "bugs" and other problems that could unexpectedly interfere with the operation of the company’s information technology systems.

The company makes investments seeking to address risks and vulnerabilities, including ongoing monitoring, updating networks and systems, and personnel awareness training of potential cybersecurity threats to help ensure employees remain diligent in identifying potential risks. In addition, we have deployed monitoring capabilities to support early detection, internal and external escalation, and effective responses to potential anomalies. As part of the company’s regular review of potential risks, the company analyzes emerging cybersecurity threats as well as the company’s plan and strategies to address them and presents them to senior management. Although the company has developed systems and processes that are designed to protect information and prevent data loss and other security breaches, including systems and processes designed to reduce the impact of a security breach, such measures cannot provide absolute security. Such breaches, whether successful or unsuccessful, could result in the company incurring costs related to, for example, rebuilding internal systems, defending against litigation, responding to regulatory inquiries or actions, paying damages, or taking other remedial steps.

Also, global privacy legislation, enforcement, and policy activity are rapidly expanding and creating a complex compliance environment. The company’s failure to comply with federal, state, or international privacy related or data protection laws and regulations could result in proceedings against the company by governmental entities or others. Although the company has insurance coverage for protecting against loss from cyber security risks, it may not be sufficient to cover all possible claims, and the company may suffer losses that could have a material adverse effect on its business.

The company relies heavily on its internal information systems, which, if not properly functioning, could materially adversely affect the company's business.

The company's current global operations reside on multiple technology platforms. The size and complexity of the company's computer systems make them potentially vulnerable to breakdown, malicious intrusion, and random attack.

In 2018, the company completed the process of implementing a global enterprise resource planning ("ERP") system to standardize its global components processes worldwide and adopt best-in-class capabilities. The company committed significant resources to this new ERP system, which replaced multiple legacy systems of the company. This conversion was extremely complex, in part, because of the wide range of processes and the multiple legacy systems that must be integrated globally. To date, the company has not experienced any identifiable significant issues. Failure to properly or adequately address any unaccounted for or unforeseen issues could impact the company's ability to perform necessary business operations, which could materially adversely affect the company's business.

The company may be subject to intellectual property rights claims, which are costly to defend, could require payment of damages or licensing fees and could limit the company's ability to use certain technologies in the future.

Certain of the company's products and services include intellectual property owned primarily by the company's third party suppliers and, to a lesser extent, the company itself. Substantial litigation and threats of litigation regarding intellectual property rights exist

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in the semiconductor/integrated circuit, software and some service industries. From time to time, third parties (including certain companies in the business of acquiring patents not for the purpose of developing technology but with the intention of aggressively seeking licensing revenue from purported infringers) may assert patent, copyright and/or other intellectual property rights to technologies that are important to the company's business. In some cases, depending on the nature of the claim, the company may be able to seek indemnification from its suppliers for itself and its customers against such claims, but there is no assurance that it will be successful in obtaining such indemnification or that the company is fully protected against such claims. In addition, the company is exposed to potential liability for technology that it develops itself or combines multiple technologies of its suppliers for which it may have limited or no indemnification protections. In any dispute involving products or services that incorporate intellectual property from multiple sources or is developed, licensed by the company, or obtained through acquisition, the company's customers could also become the targets of litigation. The company is obligated in many instances to indemnify and defend its customers if the products or services the company sells are alleged to infringe any third party's intellectual property rights. Any infringement claim brought against the company, regardless of the duration, outcome, or size of damage award, could:

- result in substantial cost to the company;
- divert management's attention and resources;
- be time consuming to defend;
- result in substantial damage awards; or
- cause product shipment delays.

Additionally, if an infringement claim is successful, the company may be required to pay damages or seek royalty or license arrangements, which may not be available on commercially reasonable terms. The payment of any such damages or royalties may significantly increase the company's operating expenses and harm the company's operating results and financial condition. Also, royalty or license arrangements may not be available at all. The company may have to stop selling certain products or using technologies, which could affect the company's ability to compete effectively.

Compliance with government regulations regarding the use of "conflict minerals" may result in increased costs and risks to the company.

As part of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Act"), the SEC has promulgated disclosure requirements regarding the use of certain minerals, which are mined from the Democratic Republic of Congo and adjoining countries, known as conflict minerals. The disclosure rules were effective in May 2014. The company must publicly disclose the process it took to determine whether it manufactures (as defined in the Act) any products that contain conflict minerals. Customers typically rely on the company to provide critical data regarding the parts they purchase, including conflict mineral information. The company's material sourcing is broad-based and multi-tiered, and it is not able to easily verify the origins for conflict minerals used in all of the products it sells. The company has many suppliers and each provides conflict mineral information in a different manner, if at all. Accordingly, because the supply chain is complex, the company may face reputational challenges if it is unable to sufficiently verify the origins of conflict minerals used in its products. Additionally, customers may demand that the products they purchase be free of conflict minerals. This may limit the number of suppliers that can provide products in sufficient quantities to meet customer demand or at competitive prices.

New tariffs may result in increased prices and could adversely affect our business and results of operations.

Recently, the U.S. government imposed tariffs on certain products imported into the U.S. and the Chinese government imposed tariffs on certain products imported into China, which have increased the prices of many of the products that the company purchases from its suppliers. The new tariffs, along with any additional tariffs or trade restrictions that may be implemented by the U.S. or other countries, could result in further increased prices. While the company

intends to pass price increases on to our customers, the effect of tariffs on prices may impact sales and results of operations. Retaliatory tariffs imposed by other countries on U.S. goods have not yet had a significant impact, but we cannot predict further developments. The tariffs and the additional operational costs incurred in minimizing the number of products subject to the tariffs could adversely affect the operating profits for certain of our businesses and customer demand for certain products which could have an adverse effect on our business and results of operations.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

The company owns and leases sales offices, distribution and value-added centers, and administrative facilities worldwide. Its executive office is located in Centennial, Colorado and occupies a 129,000 square foot facility under a long-term lease expiring in 2033. The company owns 12 locations throughout the Americas, EMEA, and Asia Pacific regions and occupies approximately 600 additional locations under leases due to expire on various dates through 2033. The company believes its facilities are well maintained and suitable for company operations.

Item 3. Legal Proceedings.

Environmental and Related Matters

In connection with the purchase of Wyle in August 2000, the company acquired certain of the then outstanding obligations of Wyle, including Wyle's indemnification obligations to the purchasers of its Wyle Laboratories division for environmental clean-up costs associated with any then existing contamination or violation of environmental regulations. Under the terms of the company's purchase of Wyle from the sellers, the sellers agreed to indemnify the company for certain costs associated with the Wyle environmental obligations, among other things. In 2012, the company entered into a settlement agreement with the sellers pursuant to which the sellers paid $110.0 million and the company released the sellers from their indemnification obligation. As part of the settlement agreement the company accepted responsibility for any potential subsequent costs incurred related to the Wyle matters. The company is aware of two Wyle Laboratories facilities (in Huntsville, Alabama and Norco, California) at which contaminated groundwater was identified and will require environmental remediation. As further discussed in Note 15 of the Notes to the Consolidated Financial Statements, the Huntsville, Alabama site is subject to a consent decree, entered into in February 2015, between the company and the Alabama Department of Environmental Management ("ADEM"). The Norco, California site is subject to a consent decree, entered in October 2003, between the company, Wyle Laboratories, and the California Department of Toxic Substance Control (the "DTSC"). In addition, the company was named as a defendant in several lawsuits related to the Norco facility and a third site in El Segundo, California which have now been settled to the satisfaction of the parties.

The company expects these environmental liabilities to be resolved over an extended period of time. Costs are recorded for environmental matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. Accruals for environmental liabilities are adjusted periodically as facts and circumstances change, assessment and remediation efforts progress, or as additional technical or legal information becomes available. Environmental liabilities are difficult to assess and estimate due to various unknown factors such as the timing and extent of remediation, improvements in remediation technologies, and the extent to which environmental laws and regulations may change in the future. Accordingly, the company cannot presently fully estimate the ultimate potential costs related to these sites until such time as a substantial portion of the investigation at the sites is completed and remedial action plans are developed and, in some instances implemented. To the extent that future environmental costs exceed amounts currently accrued by the company, net income would be adversely impacted and such impact could be material.

Accruals for environmental liabilities are included in "Accrued expenses" and "Other liabilities" in the company's consolidated
balance sheets.

As successor-in-interest to Wyle, the company is the beneficiary of various Wyle insurance policies that covered liabilities arising out of operations at Norco and Huntsville. To date, the company has recovered approximately $37.0 million from certain insurance carriers relating to environmental clean-up matters at the Norco site. The company is considering the best way to pursue its potential claims against insurers regarding liabilities arising out of operations at Huntsville. The resolution of these matters will likely take several years. The company has not recorded a receivable for any potential future insurance recoveries related to the Norco and Huntsville environmental matters, as the realization of the claims for recovery are not deemed probable at this time.

The company believes the settlement amount together with potential recoveries from various insurance policies covering environmental remediation and related litigation will be sufficient to cover any potential future costs related to the Wyle acquisition; however, it is possible unexpected costs beyond those anticipated could occur.

Other

From time to time, in the normal course of business, the company may become liable with respect to other pending and threatened litigation, environmental, regulatory, labor, product, and tax matters. While such matters are subject to inherent uncertainties, it is not currently anticipated that any such matters will materially impact the company's consolidated financial position, liquidity, or results of operations.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information

The company's common stock is listed on the NYSE (trading symbol: "ARW").

Record Holders

On February 1, 2019, there were approximately 1,466 shareholders of record of the company's common stock.

Dividend History

The company did not pay cash dividends on its common stock during 2018 or 2017. While from time to time the Board of Directors (the "Board") considers the payment of dividends on the common stock, the declaration of future dividends is dependent upon the company's earnings, financial condition, and other relevant factors, including debt covenants.

Equity Compensation Plan Information

The following table summarizes information, as of December 31, 2018, relating to the Omnibus Incentive Plan, which was approved by the company's shareholders and under which cash-based awards, non-qualified stock options, incentive stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance share units, covered employee annual incentive awards, and other stock-based awards may be granted.

Plan Category	**Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights**	**Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights**	**Number of Securities Remaining Available for Future Issuance**
Equity compensation plans approved by security holders	2,907,744	$ 65.46	3,885,282
Total	2,907,744	$ 65.46	3,885,282

Performance Graph

The following graph compares the performance of the company's common stock for the periods indicated with the performance of the Standard & Poor's MidCap 400 Index ("S&P 400 Stock Index"), the Standard & Poor's 500 Stock Index ("S&P 500 Stock Index") and the average performance of a group consisting of the company's peer companies ("Peer Group") on a line-of-business basis. During 2018, the companies included in the Peer Group are Anixter International Inc., Avnet, Inc., Celestica Inc., Flex Ltd., Jabil, Inc., Tech Data Corporation, and WESCO International, Inc. The graph assumes $100 invested on December 31, 2013 in the company, the S&P 400 Stock Index, the S&P 500 Stock Index and the Peer Group. Total return indicies reflect reinvestment of dividends and are weighted on the basis of market capitalization at the time of each reported data point.

The company changed its benchmark index from the Standard & Poor's 500 Stock Index to the S&P 400 Stock Index because it is more representative of Arrow’s market capitalization and peer group. Both indicies are included in the graph below for comparison purposes but the comparison to the S&P 500 Stock Index will not be presented in future 10-K filings.

	2013	2014	2015	2016	2017	2018
Arrow Electronics	100	107	100	131	148	127
Peer Group	100	115	115	135	157	106
S&P 400 Midcap Stock Index	100	110	107	130	151	134
S&P 500 Stock Index	100	114	115	129	157	150

Issuer Purchases of Equity Securities

The following table shows the company's Board of Directors (the "Board") approved share-repurchase programs as of December 31, 2018:

Month of Board Approval	Dollar Value Approved for Repurchase	Dollar Value of Shares Repurchased	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program
December 2016	400,000	271,388	128,612
December 2018	600,000	—	600,000
Total	$ 1,000,000	$ 271,388	$ 728,612

The following table shows the share-repurchase activity for the quarter ended December 31, 2018 (in thousands except share and per share data):

Month	Total Number of Shares Purchased(a)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program(b)	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program
September 30 through October 27, 2018	—	$	——	$ 278,639
October 28 through November 24, 2018	1,526,466	74.11	1,526,466	165,513
November 25 through December 31, 2018	501,401	73.80	499,917	728,612
Total	2,027,867		2,026,383	

(a) Includes share repurchases under the Share-Repurchase Programs and those associated with shares withheld from employees for stock-based awards, as permitted by the Omnibus Incentive Plan, in order to satisfy the required tax withholding obligations.

(b) The difference between the "total number of shares purchased" and the "total number of shares purchased as part of publicly announced program" for the quarter ended December 31, 2018 is 1,484 shares, which relate to shares withheld from employees for stock-based awards, as permitted by the Omnibus Incentive Plan, in order to satisfy the required tax withholding obligations. The purchase of these shares were not made pursuant to any publicly announced repurchase plan.

Item 6. **Selected Financial Data.**

The following table sets forth certain selected consolidated financial data and must be read in conjunction with the company's consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K (dollars in thousands except per share data).

For the years ended December 31:	**2018 (a)**	**2017 (b) (Adjusted)**	**2016 (c) (Adjusted)**	**2015 (d) ****	**2014 (e) ****
Sales	$29,676,768	$26,554,563	$23,487,872	$23,282,020	$22,768,674
Gross profit	3,700,912	3,356,968	3,144,322	3,035,250	2,995,895
Operating income	1,147,512	945,736	876,826	824,482	762,257
Net income attributable to shareholders	716,195	402,176	522,815	497,726	498,045
Net income per share:					
Basic	$8.19	$4.54	$5.75	$5.26	$5.05
Diluted	$8.10	$4.48	$5.68	$5.20	$4.98
At December 31:					
Accounts receivable, net and inventories	$12,824,141	$11,428,106	$9,566,080	$8,627,908	$8,379,107
Total assets	17,784,445	16,459,267	14,203,479	13,021,930	12,435,301
Long-term debt	3,239,115	2,933,045	2,696,334	2,380,575	2,067,898
Shareholders' equity	5,324,990	4,949,255	4,411,136	4,142,443	4,153,970

Amounts discussed below are before tax except for amounts related to the effects of the Tax Act.

(a) Operating income and net income attributable to shareholders include identifiable intangible asset amortization of $49.4 million, loss on disposition of businesses, net of $3.6 million, and restructuring, integration, and other charges of $60.4 million. Net income attributable to shareholders also includes a net loss on investment of $14.2 million, impact of Tax Act of $28.3 million, and pension settlement of $1.7 million.

(b) Operating income and net income attributable to shareholders include identifiable intangible asset amortization of $50.1 million, loss on disposition of businesses, net of $21.0 million, and restructuring, integration, and other charges of $74.6 million. Net income attributable to shareholders also includes a net loss on investment of $6.6 million, pension settlement of $16.7 million, loss on extinguishment of debt of $59.5 million, and the impact of the Tax Act of $124.7 million.

(c) Operating income and net income attributable to shareholders include identifiable intangible asset amortization of $54.9 million and restructuring, integration, and other charges of $61.4 million. Net income attributable to shareholders also includes a net gain on investment of $2.9 million, and a pension settlement of $12.2 million.

(d) Operating income and net income attributable to shareholders include identifiable intangible asset amortization of $51.0 million and restructuring, integration, and other charges of $68.8 million. Net income attributable to shareholders also includes a loss on extinguishment of debt of $2.9 million and a loss on investment, net of $1.0 million.

(e) Operating income and net income attributable to shareholders include identifiable intangible asset amortization of $44.1 million, restructuring, integration, and other charges of $39.8 million, and a non-cash impairment charge associated with discontinuing the use of a trade name of $78.0 million. Net income attributable to shareholders also includes a gain on investment of $29.7 million.

** The results presented for years 2014 and 2015 have not been adjusted for the effect of the adoption of Topic 606, ASU No. 2017-07, and other prior period reclassifications, see Notes 1 and 2. This does not materially affect the

comparability of the results with years 2016 through 2018.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Overview

Arrow Electronics, Inc. (the "company") is a global provider of products, services, and solutions to industrial and commercial users of electronic components and enterprise computing solutions. The company has one of the world's broadest portfolios of product offerings available from leading electronic components and enterprise computing solutions suppliers, coupled with a range of services, solutions and tools that help industrial and commercial customers introduce innovative products, reduce their time to market, and enhance their overall competitiveness. The company has two business segments, the global components business segment and the global enterprise computing solutions ("ECS") business segment. The company distributes electronic components to original equipment manufacturers ("OEMs") and contract manufacturers ("CMs") through its global components business segment and provides enterprise computing solutions to value-added resellers ("VARs") and managed service providers ("MSPs") through its global ECS business segment. For 2018, approximately 70% of the company's sales were from the global components business segment and approximately 30% of the company's sales were from the global ECS business segment.

The company's financial objectives are to grow sales faster than the market, increase the markets served, grow profits faster than sales, and increase return on invested capital. To achieve its objectives, the company seeks to capture significant opportunities to grow across products, markets, and geographies. To supplement its organic growth strategy, the company continually evaluates strategic acquisitions to broaden its product and value-added service offerings, increase its market penetration, and expand its geographic reach.

Executive Summary

Consolidated sales for 2018 increased by 11.8%, compared with the year-earlier period, due to a 13.8% increase in global components business segment sales and a 7.2% increase in global ECS business segment sales. Adjusted for the change in foreign currencies, acquisitions, and dispositions, consolidated sales increased 10.9% compared with the year-earlier period.

Net income attributable to shareholders increased to $716.2 million in 2018 compared with $402.2 million in the year-earlier period. The following items impacted the comparability of the company's results for the years ended December 31, 2018 and 2017, all amounts are before tax except for amounts related to the effects of the Tax Act.

- restructuring, integration, and other charges of $60.4 million in 2018 and $74.6 million in 2017;
- identifiable intangible asset amortization of $49.4 million in 2018 and $50.1 million in 2017;
- net loss on investments of $14.2 million in 2018 and $6.6 million in 2017;
- loss on disposition of businesses, net, of $3.6 million in 2018 and $21.0 million in 2017;
- loss on extinguishment of debt of $59.5 million in 2017;
- pension settlement of $1.7 million in 2018 and $16.7 million in 2017; and
- Income tax benefit of $28.3 million in 2018 and expense of $124.7 million in 2017, related to the Tax Act.

Excluding the aforementioned items, net income attributable to shareholders increased to $781.0 million in 2018 compared with $674.5 million in the year-earlier period.

Certain Non-GAAP Financial Information

In addition to disclosing financial results that are determined in accordance with accounting principles generally accepted in the United States ("GAAP"), the company also discloses certain non-GAAP financial information, including:

- Sales, income, or expense items as adjusted for the impact of changes in foreign currencies (referred to as "impact of changes in foreign currencies"), by re-translating prior period results at current period foreign exchange rates, and the impact of acquisitions by adjusting the company's prior periods to include the operating results of businesses acquired, including the amortization expense related to acquired intangible assets, as if the acquisitions had occurred at the beginning of the earliest period presented (referred to as "impact of acquisitions") and the impact of dispositions by adjusting the company's operating results for businesses disposed, as if the dispositions had occurred at the beginning of the earliest period presented (referred to as "impact of dispositions");
- Operating income as adjusted to exclude identifiable intangible asset amortization, restructuring, integration, and other charges, and loss on disposition of businesses, net; and
- Net income attributable to shareholders as adjusted to exclude identifiable intangible asset amortization, restructuring, integration, and other charges, loss on disposition of businesses, net, gain (loss) on investments, net, loss on extinguishment of debt, pension settlements, and impact of the Tax Act.

Management believes that providing this additional information is useful to the reader to better assess and understand the company's operating performance, especially when comparing results with previous periods, primarily because management typically monitors the business adjusted for these items in addition to GAAP results. However, analysis of results on a non-GAAP basis should be used as a complement to, and in conjunction with, data presented in accordance with GAAP.

Sales

Substantially all of the company's sales are made on an order-by-order basis, rather than through long-term sales contracts. As such, the nature of the company's business does not provide for the visibility of material forward-looking information from its customers and suppliers beyond a few months.

Following is an analysis of net sales by business segment for the years ended December 31 (in millions):

	2018	2017	Change
Consolidated sales, as reported*	$29,677	$26,555	11.8 %
Impact of changes in foreign currencies	—	252	
Impact of acquisitions	—	158	
Impact of dispositions	(27)	(230)	
Consolidated sales, as adjusted*	$29,649	$26,734	10.9 %
Global components sales, as reported*	$20,857	$18,330	13.8 %
Impact of changes in foreign currencies	—	174	
Impact of acquisitions	—	85	
Impact of dispositions	—	—	
Global components sales, as adjusted*	$20,857	$18,589	12.2 %
Global ECS sales, as reported*	$8,820	$8,224	7.2 %
Impact of changes in foreign currencies	—	77	
Impact of acquisitions	—	73	
Impact of dispositions	(27)	(230)	
Global ECS sales, as adjusted*	$8,792	$8,145	8.0 %

* The sum of the components for sales, as adjusted, may not agree to totals, as presented, due to rounding.

Consolidated sales for 2018 increased by $3.1 billion, or 11.8%, compared with the year-earlier period. The increase in 2018 was driven by an increase in global components business segment sales of $2.5 billion, or 13.8%, and an increase in global ECS business segment sales of $595.8 million, or 7.2%, compared with the year-earlier period. Adjusted for the impact of changes in foreign currencies, acquisitions, and dispositions, the company's consolidated sales increased by 10.9% in 2018, compared with the year-earlier period.

In the global components business segment, sales for 2018 increased 13.8% compared with the year-earlier period, with double-digit sales growth in Arrow’s core businesses across all three regions (Americas, EMEA, and Asia), as well as high double digit growth coming from Arrow’s strategic investment in Digital and Sustainable Technology Solutions businesses. The increase for 2018 is attributable to suppliers awarding additional business to the company, and reflects strong growth in the industrial, aerospace and defense verticals year over year. Adjusted for the impact of changes in foreign currencies and acquisitions, the company's global components business segment sales increased by 12.2% in 2018, compared with the year-earlier period.

In the global ECS business segment, sales for 2018 increased 7.2% compared with the year-earlier period. Growth was driven by infrastructure software, security, storage, and industry-standard servers. Adjusted for the impact of

changes in foreign currencies, acquisitions, and dispositions, the company's global ECS business segment sales increased by 8.0% in 2018, compared with the year-earlier period.

Following is an analysis of net sales by business segment for the years ended December 31 (in millions):

	2017	2016	Change
Consolidated sales, as reported*	$26,555	$23,488	13.1 %
Impact of changes in foreign currencies	—	142	
Impact of acquisitions	—	48	
Consolidated sales, as adjusted*	$26,555	$23,679	12.1 %
Global components sales, as reported*	$18,330	$15,409	19.0 %
Impact of changes in foreign currencies	—	87	
Impact of acquisitions	—	10	
Global components sales, as adjusted*	$18,330	$15,505	18.2 %
Global ECS sales, as reported*	$8,224	$8,079	1.8 %
Impact of changes in foreign currencies	—	56	
Impact of acquisitions	—	38	
Global ECS sales, as adjusted	$8,224	$8,173	0.6 %

* The sum of the components for sales, as adjusted, may not agree to totals, as presented, due to rounding.

Consolidated sales for 2017 increased by $3.1 billion, or 13.1%, compared with the year-earlier period. The increase in 2017 was driven by an increase in global components business segment sales of $2.9 billion, or 19.0%, and an increase in global ECS business segment sales of $145.1 million, or 1.8%, compared with the year-earlier period. Adjusted for the impact of changes in foreign currencies and acquisitions, the company's consolidated sales increased by 12.1% in 2017, compared with the year-earlier period.

In the global components business segment, sales for 2017 increased 19.0% compared with the year-earlier period, with double-digit sales growth in Arrow's core business across all three regions (Americas, EMEA, and Asia), as well as high double digit growth coming from Arrow's strategic investments in its Digital and Sustainable Technology Solutions businesses. The increase for 2017 is attributable to suppliers awarding additional business to the company, and reflects strong growth in the industrial, transportation, aerospace and defense, consumer, and communications verticals year over year. Adjusted for the impact of changes in foreign currencies and acquisitions, the company's global components business segment sales increased by 18.2% in 2017, compared with the year-earlier period.

In the global ECS business segment, sales growth for 2017 was increased 1.8% compared with the year-earlier period, with declining revenue in the first half of the year offset by growth in the second half of the year. Adjusted for the impact of changes in foreign currencies and acquisitions, the company's global ECS business segment sales increased by 0.6% in 2017, compared with the year-earlier period.

Gross Profit

Following is an analysis of gross profit for the years ended December 31 (in millions):

	2018	2017	Change
Consolidated gross profit, as reported	$3,701	$3,357	10.2%
Impact of changes in foreign currencies	—	31	
Impact of acquisitions	—	49	
Impact of dispositions	(6)	(60)	
Consolidated gross profit, as adjusted	$3,695	$3,377	9.4 %
Consolidated gross profit as a percentage of sales, as reported	12.5 %	12.6 %	(10) bps
Consolidated gross profit as a percentage of sales, as adjusted	12.5 %	12.6 %	(10) bps

The company recorded gross profit of $3.7 billion and $3.4 billion for 2018 and 2017, respectively. The increase in gross profit was primarily due to increased demand and supplier awards in the components business. Gross profit margins for 2018 decreased by approximately 10 basis points, compared with the year-earlier period, primarily due to declining margins in the global ECS business attributable to less favorable business mix. Declines were mostly offset by improving margins in the global components business.

Following is an analysis of gross profit for the years ended December 31 (in millions):

	2017	2016	Change
Consolidated gross profit, as reported	$3,357	$3,144	6.8 %
Impact of changes in foreign currencies	—	18	
Impact of acquisitions	—	13	
Consolidated gross profit, as adjusted	$3,357	$3,175	5.7 %
Consolidated gross profit as a percentage of sales, as reported	12.6 %	13.4 %	(80) bps
Consolidated gross profit as a percentage of sales, as adjusted	12.6 %	13.4 %	(80) bps

The company recorded gross profit of $3.4 billion and $3.1 billion for 2017 and 2016, respectively. The increase in gross profit was primarily due to increased demand and supplier awards in the components business. Gross profit margins for 2017 decreased by approximately 80 basis points, compared with the year-earlier period, primarily due to an increase in lower margin distribution services in the Americas and EMEA Components businesses. The increase in supplier awards initially drive lower margin fulfillment volume.

Selling, General, and Administrative Expenses and Depreciation and Amortization

Following is an analysis of operating expenses for the years ended December 31 (in millions):

	2018	2017	Change
Selling, general, and administrative expenses, as reported	$2,303	$2,162	6.5 %
Depreciation and amortization, as reported	186	154	21.3%
Operating expenses, as reported	2,489	2,316	7.5 %
Impact of changes in foreign currencies	—	25	
Impact of acquisitions	—	30	
Impact of dispositions	(7)	(56)	
Operating expenses, as adjusted*	$2,483	$2,315	7.3 %
Operating expenses as a percentage of sales, as reported	8.4 %	8.7 %	(30) bps
Operating expenses as a percentage of sales, as adjusted	8.4 %	8.7 %	(30) bps

* The sum of the components for operating expenses, as adjusted, may not agree to totals, as presented, due to rounding.

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Selling, general, and administrative expenses increased by $141.0 million, or 6.5%, in 2018, on a sales increase of 11.8%, compared with the year-earlier period. Selling, general, and administrative expenses, as a percentage of sales, was 7.8% and 8.1% for 2018 and 2017, respectively.

Depreciation and amortization expense as a percentage of operating expenses was 7.5% for 2018 compared with 6.6% in the year-earlier period. During 2018 the company recorded $22.4 million of depreciation related to a global enterprise resource tool ("ERP") placed into service during the first quarter of 2018. Included in depreciation and amortization expense is identifiable intangible asset amortization of $49.4 million for 2018 compared to $50.1 million for 2017.

Adjusted for the impact of changes in foreign currencies, acquisitions, and dispositions, operating expenses for 2018 increased 7.3%, on a sales increase, as adjusted, of 10.9%. Adjusted for the impact of changes in foreign currencies and acquisitions, operating expenses as a percentage of sales for 2018 were 8.4% compared to 8.7% for 2017. The decline in operating expense as a percentage of sales reflects the operational efficiencies the company achieved to align costs to the business mix.

Following is an analysis of operating expenses for the years ended December 31 (in millions):

	2017	2016	Change
Selling, general, and administrative expenses, as reported	$2,162	$2,047	5.6 %
Depreciation and amortization, as reported	154	159	(3.5)%
Operating expenses, as reported	2,316	2,206	5.0 %
Impact of changes in foreign currencies	—	9	
Impact of acquisitions	—	9	
Operating expenses, as adjusted	$2,316	$2,224	4.1 %
Operating expenses as a percentage of sales, as reported	8.7 %	9.4 %	(70) bps
Operating expenses as a percentage of sales, as adjusted	8.7 %	9.4 %	(70) bps

Selling, general, and administrative expenses increased $115.1 million, or 5.6%, in 2017, on a sales increase of 13.1%, compared with the year-earlier period. Selling, general, and administrative expenses, as a percentage of sales, was 8.1% and 8.7%, for 2017 and 2016, respectively.

Depreciation and amortization expense as a percentage of operating expenses was 6.6% for 2017 compared with 7.2% in the year-earlier period. Included in depreciation and amortization expense is identifiable intangible asset amortization of $50.1 million for 2017 compared to $54.9 million for 2016.

Adjusted for the impact of changes in foreign currencies and acquisitions, operating expenses for 2017 increased 4.1%, on a sales increase, as adjusted, of 12.1%. Adjusted for the impact of changes in foreign currencies and acquisitions, operating expenses as a percentage of sales for 2017 were compared to for 2016. The decline in operating expense as a percentage of sales reflects the operational efficiencies the company achieved to align costs to the business mix.

Restructuring, Integration, and Other Charges

2018 Charges

In 2018, the company recorded restructuring, integration, and other charges of $60.4 million. Included in the restructuring, integration, and other charges for 2018 is a restructuring and integration charge of $23.7 million related to initiatives taken by the company to improve operating efficiencies, which includes personnel costs of $15.3 million, facilities costs of $8.2 million, and other costs of $0.1 million. These restructuring initiatives are due to the company's continued efforts to lower cost and drive operational efficiency. Integration costs are primarily related to the

integration of acquired businesses within the company's pre-existing business and the consolidation of certain operations. Also included is a charge of $7.5 million related to restructuring and integration actions taken in prior periods.

Included in restructuring, integration, and other charges for 2018 are other expenses of $29.1 million. In 2018, the company recorded acquisition related charges of $10.2 million related to professional and other fees directly related to recent acquisition activity as well as contingent consideration for acquisitions completed in prior years, and $11.2 million in charges related to relocation and infrastructure upgrades of the company’s data centers, and other centralization efforts to maximize operating efficiencies.

2017 Charges

In 2017, the company recorded restructuring, integration, and other charges of $74.6 million. Included in the restructuring, integration, and other charges for 2017 is a restructuring and integration charge of $46.8 million related to initiatives taken by the company to improve operating efficiencies, which includes personnel costs of $37.6 million, facilities costs of $8.2 million, and other costs of $1.0 million. These restructuring initiatives are due to the company's continued efforts to lower cost and drive operational efficiency. Integration costs are primarily related to the integration of acquired businesses within the company's pre-existing business and the consolidation of certain operations. Also included is a charge of $6.2 million related to restructuring and integration actions taken in prior periods.

Included in restructuring, integration, and other charges for 2017 are other expenses of $21.6 million, which includes the following charges and credits. Additional expenses of $2.1 million to increase its accrual for the Wyle Laboratories ("Wyle") environmental obligation (see Note 15), acquisition related charges of $7.7 million related to contingent consideration for acquisitions completed in prior years, and a net loss on real estate transactions of $3.1 million.

2016 Charges

In 2016, the company recorded restructuring, integration, and other charges of $61.4 million. Included in the restructuring, integration, and other charges for 2016 is a restructuring and integration charge of $32.9 million related to initiatives taken by the company to improve operating efficiencies, which includes personnel costs of $25.8 million, facilities costs of $5.8 million, and other costs of $1.3 million. These restructuring initiatives are due to the company's continued efforts to lower cost and drive operational efficiency. Integration costs are primarily related to the integration of acquired businesses within the company's pre-existing business and the consolidation of certain operations. Also included is a charge of $3.6 million related to restructuring and integration actions taken in prior periods.

Included in restructuring, integration, and other charges for 2016 are other expenses of $24.9 million, which include the following charges and credits. In 2016, the company recorded additional expenses of $11.8 million to increase its accrual for the Wyle environmental obligation (see Note 15), acquisition related charges of $8.7 million related to contingent consideration for acquisitions completed in prior years, and a fraud loss, net of insurance recoveries, of $4.3 million. Also in 2016, the company released a $2.4 million legal reserve.

As of December 31, 2018, the company does not anticipate there will be any material adjustments relating to the aforementioned restructuring plans. Refer to Note 9, "Restructuring, Integration, and Other Charges" of the Notes to the Consolidated Financial Statements for further discussion of the company's restructuring and integration activities.

Operating Income

Following is an analysis of operating income for the years ended December 31 (in millions):