

BELDEN INC.  
Form 10-K  
February 13, 2018  
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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-K

(Mark One)

Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the fiscal year ended December 31, 2017

or

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File No. 001-12561

BELDEN INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware 36-3601505  
(State or Other Jurisdiction of (IRS Employer  
Incorporation or Organization) Identification No.)

1 North Brentwood Boulevard  
15th Floor  
St. Louis, Missouri 63105  
(Address of Principal Executive Offices and Zip Code)

(314) 854-8000

(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, \$0.01 par value	The New York Stock Exchange
Preferred Stock Purchase Rights	The 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  No .

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

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

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

Indicate by check mark whether the Registrant has submitted electronically and posted on its corporate website, if any, every interactive data file required to be submitted and posted pursuant to Rule 405 of Regulation S-T (section 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  No .



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

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

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

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

At July 2, 2017, the aggregate market value of Common Stock of Belden Inc. held by non-affiliates was \$2,453,273,327 based on the closing price (\$75.43) of such stock on such date.

There were 41,930,562 shares of registrant’s Common Stock outstanding on February 9, 2018.

**DOCUMENTS INCORPORATED BY REFERENCE**

The registrant intends to file a definitive proxy statement for its annual meeting of stockholders within 120 days of the end of the fiscal year ended December 31, 2017 (the “Proxy Statement”). Portions of such proxy statement are incorporated by reference into Part III.

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## Part I

## Item 1. Business

## General

Belden Inc. (Belden, the Company, us, we, or our) is an innovative signal transmission solutions company built around four global business platforms – Broadcast Solutions, Enterprise Solutions, Industrial Solutions, and Network Solutions. Each of the global business platforms represents a reportable segment. Financial information about our segments appears in Note 5 to the Consolidated Financial Statements.

Our comprehensive portfolio of signal transmission solutions provides industry leading secure and reliable transmission of data, sound, and video for mission critical applications. We sell our products to distributors, end-users, installers, and directly to original equipment manufacturers (OEMs). Belden Inc. is a Delaware corporation incorporated in 1988, but the Company’s roots date back to its founding by Joseph Belden in 1902.

As used herein, unless an operating segment is identified or the context otherwise requires, “Belden,” the “Company”, and “we” refer to Belden Inc. and its subsidiaries as a whole.

## Strategy and Business Model

Our business model is designed to generate shareholder value:

**Operational Excellence**—The core of our business model is operational excellence and the execution of our Belden Business System. The Belden Business System has three areas of focus. First, we demonstrate a commitment to Lean enterprise initiatives, which improve not only the quality and efficiency of the manufacturing environment, but our business processes on a company-wide basis. Second, we utilize our Market Delivery System (MDS), a go-to-market model that provides the foundation for organic growth. We believe that organic growth, resulting from both market growth and share capture, is essential to our success. Finally, our Talent Management System supports the development of our associates at all levels, which preserves the culture necessary to operate our business consistently and sustainably.

**Cash Generation**—Our pursuit of operational excellence results in the generation of significant cash flow. We generated cash flows from operating activities of \$255.3 million, \$314.8 million, and \$241.5 million in 2017, 2016, and 2015, respectively.

**Portfolio Improvement**—We utilize the cash flow generated by our business to fuel our continued transformation and generate shareholder value. We continuously improve our portfolio to ensure we provide the most complete, end-to-end solutions to our customers. Our portfolio is designed with balance across end markets and geographies to ensure we can meet our goals in most economic environments. We have a disciplined acquisition cultivation, execution, and integration system that allows us to invest in outstanding companies that strengthen our capabilities and enhance our ability to serve our customers.

## Segments

We operate our business under the following segments:

	Percentage of Segment Revenues <sup>(1)</sup>					
	2017		2016		2015	
Broadcast Solutions	30.4	%	32.6	%	31.4	%
Enterprise Solutions	26.4	%	25.6	%	25.7	%
Industrial Solutions	26.3	%	24.8	%	25.6	%
Network Solutions	16.9	%	17.0	%	17.3	%

(1) See Note 6 to the Consolidated Financial Statements for additional information regarding our segment measures.

## Broadcast Solutions

The Broadcast Solutions (Broadcast) segment is a leading provider of production, distribution, and connectivity systems for television broadcast, cable, satellite, and IPTV industries. We target end-use customers in markets such as outside broadcast, sport



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venues, broadcast studios, and cable, broadband, satellite, and telecommunications service providers. Our products are used in a variety of applications, including live production signal management, program playout for broadcasters, monitoring for pay-TV operators, and broadband connectivity. Broadcast products and solutions include camera solutions, production switchers, server and storage systems for instant replay applications, interfaces and routers, monitoring systems, in-home network systems, playout systems, outside plant connectivity products, and other cable and connectivity products.

Our hardware and software solutions for the broadcast infrastructure industry span the full breadth of television operations, including creation, playout, and delivery. Many of our broadcast infrastructure solutions are designed for live content creation, which is viewed as a growth opportunity for the segment. For the broadband distribution industry, we manufacture flexible, copper-clad coaxial cable and associated connector products for the high-speed transmission of data, sound, and video (broadband) that are used for the “drop” section of cable television (CATV) systems and satellite direct broadcast systems. Our connectivity solutions include several major product categories: coax connector products that allow for connections from the provider network to the subscribers’ devices; hardline connectors that allow service providers to distribute their services within a city, a town, or a neighborhood; fiber optic micro duct products to support FTTx networks; entry devices that serve to manage and remove network signal noise that could impair performance for the subscriber; and traps and filtering devices that allow service providers to control the signals that are transmitted to the subscriber. Our portfolio of broadband distribution products is well positioned for growth opportunities as broadband consumption continues to increase both in developed and emerging markets.

Broadcast products are sold through a variety of channels, including: broadcast specialty distributors; audio systems installers; directly to the major television networks including ABC, CBS, Fox, and NBC; directly to broadband service providers, including Comcast, DirectTV, Charter Spectrum, and Verizon; directly to specialty system integrators; directly to OEMs; and other distributors.

### Enterprise Solutions

The Enterprise Solutions (Enterprise) segment is a leading provider in network infrastructure solutions, as well as cabling and connectivity solutions for broadcast, commercial audio/video, and security applications. We serve customers in markets such as healthcare, education, financial, government, and corporate enterprises, as well as end-markets, including sport venues, broadcast studios, and academies. Enterprise product lines include copper cable and connectivity solutions, fiber cable and connectivity solutions, and racks and enclosures. Our products are used in applications such as local area networks, data centers, access control, and building automation. Enterprise provides true end-to-end copper and fiber network systems to include cable, assemblies, interconnect panels, and enclosures. Our products are also used in a variety of applications, including live production and performance, video display and digital signage, and corporate communications. Our high-performance solutions support all networking protocols up to and including 100G+ Ethernet technologies. Enterprise’s innovative products can deliver data in addition to power over Ethernet, which meets the higher performance requirements driven by the increasing number of connections in smart buildings. Enterprise products also include intelligent power, cooling, and airflow management for mission-critical data center operations. The Enterprise product portfolio is designed to support Internet Protocol convergence, the increased use of wireless communications, and cloud-based data centers by our customers. Our systems are installed through a network of highly trained system integrators and are supplied through authorized distributors.

### Industrial Solutions

The Industrial Solutions (Industrial) segment is a leading provider of high performance networking components and machine connectivity products. Industrial products include physical network and fieldbus infrastructure components and on-machine connectivity systems customized to end user and OEM needs. Products are designed to provide reliability and confidence of performance for a wide range of industrial automation applications. Our mix of business by end market includes discrete manufacturing (65% of 2017 revenues); process, including oil and gas (24%); energy (7%); and transportation (4%). Our products are used in applications such as network and fieldbus infrastructure;

sensor and actuator connectivity; power, control, and data transmission. Industrial products include solutions such as industrial and input/output (I/O) connectors, industrial cables, IP and networking cables, I/O modules, distribution boxes, ruggedized controls and sensors, and customer specific wiring solutions.

Our industrial cable products are used in discrete manufacturing and process operations involving the connection of computers, programmable controllers, robots, operator interfaces, motor drives, sensors, printers, and other devices. Many industrial environments, such as petrochemical and other harsh-environment operations, require cables with exterior armor or jacketing that can endure physical abuse and exposure to chemicals, extreme temperatures, and outside elements. Other applications require conductors, insulating, and jacketing materials that can withstand repeated flexing. In addition to cable product configurations for these applications, we supply heat-shrinkable tubing and wire management products to protect and organize wire and cable assemblies. Our industrial connector products are primarily used as sensor and actuator connections in factory automation



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supporting various fieldbus protocols as well as power connections in building automation. These products are used both as components of manufacturing equipment and in the installation and networking of such equipment. Industrial Solutions products are sold directly to industrial equipment OEMs and through a network of industrial distributors, value-added resellers, and system integrators.

### Network Solutions

The Network Solutions (Network) segment provides foundational controls for protecting enterprises against cyberattacks, automating IT regulatory compliance and improving operational efficiency. Network Solutions provides software and services that protect against cyberattacks and data breaches with integrated security controls that discover assets, harden configurations, identify vulnerabilities and detect threats. We target end-use customers in markets such as industrial (including utilities and energy), enterprise (including finance, insurance, technology, communications, retail, and healthcare), and government. The Network Solutions product portfolio of enterprise-class security solutions includes configuration and policy management, file integrity monitoring, vulnerability management and log intelligence.

Network Solutions products are sold directly to end-use customers, as well as through channel partners. See Note 6 to the Consolidated Financial Statements for additional information regarding our segments.

### Acquisitions

A key part of our business strategy includes acquiring companies to support our growth and product portfolio. Our acquisition strategy is based upon targeting leading companies that offer innovative products and strong brands. We utilize a disciplined approach to acquisitions based on product and market opportunities. When we identify acquisition candidates, we conduct rigorous financial and cultural analyses to make certain that they meet both our strategic plan targets and our goal for return on invested capital of 13-15%.

We have completed a number of acquisitions in recent years as part of this strategy. Most recently, in May 2017, we completed the acquisition of Thinklogical Holdings, LLC (Thinklogical), a leading provider of secure, centralized KVM video switches to the command and control market. The results of Thinklogical have been included in our Consolidated Financial Statements from the acquisition date and are reported in the Broadcast Solutions segment. In January 2016, we acquired M2FX Limited (M2FX), a manufacturer of fiber optic cable and fiber protection solutions for broadband and telecommunications networks. The results of M2FX are included in our Broadcast Solutions segment.

In January 2015, we acquired Tripwire, Inc. (Tripwire), a leading global provider of advanced threat, security, and compliance solutions. Tripwire's solutions enable enterprises, service providers, manufacturers, and government agencies to detect, prevent, and respond to growing security threats. The results of Tripwire are included in our Network Solutions segment.

For more information regarding these transactions, see Note 3 to the Consolidated Financial Statements.

### Customers

We sell to distributors, OEMs, installers, and end-users. Sales to the distributor Anixter International Inc. represented approximately 12% of our consolidated revenues in 2017. No other customer accounted for more than 10% of our revenues in 2017.

We have supply agreements with distributors and OEM customers. In general, our customers are not contractually obligated to buy our products exclusively, in minimum amounts, or for a significant period of time. We believe that our relationships with our customers and distributors are good and that they are loyal to Belden products as a result of our reputation, the breadth of our product portfolio, the quality and performance characteristics of our products, and our customer service and technical support, among other reasons.

### International Operations

In addition to manufacturing facilities in the United States (U.S.), we have manufacturing and other operating facilities in Brazil, Canada, China, Japan, Mexico, and St. Kitts, as well as in various countries in Europe. During

2017, approximately 47% of Belden's sales were to customers outside the U.S. Our primary channels to international markets include both distributors and direct sales to end users and OEMs.

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Financial information for Belden by country is shown in Note 6 to the Consolidated Financial Statements.

### Competition

We face substantial competition in our major markets. The number and size of our competitors vary depending on the product line and segment. Some multinational competitors have greater financial, engineering, manufacturing, and marketing resources than we have. There are also many regional competitors that have more limited product offerings. The markets in which we operate can be generally categorized as highly competitive with many players. In order to maximize our competitive advantages, we manage our product portfolio to capitalize on secular trends and high-growth applications in those markets. Based on available data for our served markets, we estimate that our market share across our segments is significant, ranging from approximately 5% – 20%. A substantial acquisition in one of our served markets would be necessary to meaningfully change our estimated market share percentage. The principal competitive factors in all our product markets are technical features, quality, availability, price, customer support, and distribution coverage. The relative importance of each of these factors varies depending on the customer. Some products are manufactured to meet published industry specifications and are less differentiated on the basis of product characteristics. We believe that Belden stands out in many of its markets on the basis of our reputation, the breadth of our product portfolio, the quality and performance characteristics of our products, our customer service, and our technical support.

### Research and Development

We conduct research and development on an ongoing basis, including new and existing product development, testing and analysis, and process and equipment development and testing. See the Consolidated Statements of Operations for amounts incurred for research and development. Many of the markets we serve are characterized by advances in information processing and communications capabilities, including advances driven by the expansion of digital technology, which require increased transmission speeds and greater bandwidth. Our markets are also subject to increasing requirements for mobility, information security, and transmission reliability. We believe that our future success will depend in part upon our ability to enhance existing products and to develop and manufacture new products that meet or anticipate such changes in our served markets.

Our most significant investments in research and development occur in our Broadcast Solutions and Network Solutions platforms. The research and development investments for these platforms include a focus on the following developments:

In the broadcast market, the trend towards increasingly complex broadcast production, management, and distribution environments continues to evolve. Our end-use customers need to increase efficiency and enhance workflow through systems and infrastructure. Our broadcast products allow content producers, broadcasters, and service providers to manage the increasingly complex broadcast signals throughout their operations.

In order to support the demand for additional bandwidth and to improve service integrity, broadband service providers are investing in their networks to enhance delivery capabilities to customers for the foreseeable future. Additional bandwidth requirements as a result of increased traffic expose weak points in the network, which are often connectivity related, causing broadband service operators to improve and upgrade residential networks with higher performing connectivity products.

For network solution products, there is a compelling need among global enterprises, service providers and government agencies to detect, prevent and respond to cyber security threats. This is a long-standing need within corporate networks, but we believe the rapid proliferation of new devices in the “internet of things” will cause this need to broaden and accelerate. Additionally, cyber-attacks are moving beyond traditional targets into critical infrastructure, which will further amplify the importance of our work in network security. Furthermore, there is a growing trend toward adoption of Industrial Ethernet technology, bringing to the critical infrastructure the advantages of digital communication and the ability to network devices made by different manufacturers and integrate them with enterprise systems. While the adoption of this technology is at a more advanced stage in certain regions of the world, we believe that the trend will globalize. This trend will also lead to a rising need for wireless systems for some applications and for cybersecurity to protect this critical infrastructure.

Part of our research and development is focused on creating scalable, efficient technologies to provide real-time instrumentation and analytics across entire networks. This includes delivering high-fidelity visibility and deep intelligence about networked systems, their vulnerabilities, and providing actionable information about how to effectively secure them. Additionally, we have highly-skilled and active research teams who analyze current and

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anticipated threats, and provide offerings to the market to enable customers to quickly detect and resolve cybersecurity threats.

Our research and development efforts are also focused on fiber optic technology, which presents a potential substitute for certain of the copper-based products that comprise a portion of our revenues. Fiber optic cables have certain advantages over copper-based cables in applications where large amounts of information must travel significant distances and where high levels of information security are required. While the cost to interface electronic and optical light signals and to terminate and connect optical fiber remains comparatively high, we expect that in future years the cost difference versus traditional copper networks will diminish. We sell fiber optic infrastructure, and many customers specify these products in combination with copper-based infrastructure. The final stage of most networks remains almost exclusively copper-based, and we expect that it will continue to be copper for the foreseeable future. However, if a significant decrease in the cost of fiber optic systems relative to the cost of copper-based systems were to occur, such systems could become superior on a price/performance basis to copper-based systems. Part of our research and development efforts focus on expanding our fiber-optic based product portfolio.

**Patents and Trademarks**

We have a policy of seeking patents when appropriate on inventions concerning new products, product improvements, and advances in equipment and processes as part of our ongoing research, development, and manufacturing activities. We own many patents and registered trademarks worldwide that are used by our operating segments, with pending applications for numerous others. We consider our patents and trademarks to be valuable assets. Our most prominent trademarks are: Belden®, Alpha Wire™, Mohawk®, West Penn Wire™, Hirschmann®, Lumberg Automation™, GarrettCom®, Poliron™, Tofino®, PPC®, Grass Valley®, ProSoft Technology®, Tripwire®, and Thinklogical®.

**Raw Materials**

The principal raw material used in many of our cable products is copper. Other materials we purchase in large quantities include fluorinated ethylene-propylene (FEP), polyvinyl chloride (PVC), polyethylene, aluminum-clad steel and copper-clad steel conductors, aluminum, brass, other metals, optical fiber, printed circuit boards, and electronic components. With respect to all major raw materials used by us, we generally have either alternative sources of supply or access to alternative materials. Supplies of these materials are generally adequate and are expected to remain so for the foreseeable future.

Over the past three years, the prices of metals, particularly copper, have been highly volatile. The chart below illustrates the high and low spot prices per pound of copper over the last three years.

	2017	2016	2015
Copper spot prices per pound			
High	\$3.29	\$2.69	\$2.95
Low	\$2.48	\$1.94	\$2.02

Prices for materials such as PVC and other plastics derived from petrochemical feedstocks have also fluctuated. Since Belden utilizes the first in, first out (FIFO) inventory costing methodology, the impact of copper and other raw material cost changes on our cost of goods sold is delayed by approximately two months based on our rate of inventory turnover.

While we generally are able to adjust our pricing for fluctuations in commodity prices, we can experience short-term favorable or unfavorable variances. When the cost of raw materials increases, we are generally able to recover these costs through higher pricing of our finished products. The majority of our products are sold through distribution, and we manage the pricing of these products through published price lists, which we update from time to time, with new prices typically taking effect a few weeks after they are announced. Some OEM customer contracts have provisions for passing through raw material cost changes, generally with a lag of a few weeks to three months.

**Backlog**

Our business is characterized generally by short-term order and shipment schedules. Our backlog consists of product orders for which we have received a customer purchase order or purchase commitment and which have not yet been

shipped. Orders are generally subject to cancellation or rescheduling by the customer. As of December 31, 2017, our backlog of orders believed to be firm was \$259.2 million. The majority of the backlog at December 31, 2017 is scheduled to be shipped in 2018.

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## Environmental Matters

We are subject to numerous federal, state, provincial, local, and foreign laws and regulations relating to the storage, handling, emission, and discharge of materials into the environment, including the Comprehensive Environmental Response, Compensation, and Liability Act; the Clean Water Act; the Clean Air Act; the Emergency Planning and Community Right-To-Know Act; the Resource Conservation and Recovery Act; and similar laws in the other countries in which we operate. We believe that our existing environmental control procedures and accrued liabilities are adequate, and we have no current plans for substantial capital expenditures in this area.

## Employees

As of December 31, 2017, we had approximately 8,800 employees worldwide. We also utilized approximately 300 workers under contract manufacturing arrangements. Approximately 1,800 employees are covered by collective bargaining agreements at various locations around the world. We believe our relationship with our employees is generally good.

## Available Information

We file annual, quarterly, and current reports, proxy statements, and other information with the Securities and Exchange Commission (SEC). These reports, proxy statements, and other information contain additional information about us. You may read and copy these materials at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC also maintains a web site that contains reports, proxy and information statements, and other information about issuers who file electronically with the SEC. The Internet address of the site is [www.sec.gov](http://www.sec.gov).

Belden maintains an Internet web site at [www.belden.com](http://www.belden.com) where our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, proxy statements, and all amendments to those reports and statements are available without charge, as soon as reasonably practicable following the time they are filed with or furnished to the SEC.

We will provide upon written request and without charge a printed copy of our Annual Report on Form 10-K. To obtain such a copy, please write to the Corporate Secretary, Belden Inc., 1 North Brentwood Boulevard, 15th Floor, St. Louis, MO 63105.

## Executive Officers

The following table sets forth certain information with respect to the persons who were Belden executive officers as of February 12, 2018. All executive officers are elected to terms that expire at the organizational meeting of the Board of Directors following the Annual Meeting of Shareholders.

Name	Age	Position
John Stroup	51	President, Chief Executive Officer, and Chairman
Brian Anderson	43	Senior Vice President, Legal, General Counsel and Corporate Secretary
Henk Derksen	49	Senior Vice President, Finance, and Chief Financial Officer
Dean McKenna	49	Senior Vice President, Human Resources
Glenn Pennycook	55	Executive Vice President, Enterprise and Broadband Solutions
Ross Rosenberg	48	Senior Vice President, Strategy and Corporate Development
Dhrupad Trivedi	51	Executive Vice President, Network Solutions
Paul Turner	54	Senior Vice President, Sales
Roel Vestjens	43	Executive Vice President, Industrial Solutions and Broadcast IT Solutions
Doug Zink	42	Vice President and Chief Accounting Officer

John Stroup has been President, Chief Executive Officer and a member of the Board since October 2005. He was elected as Chairman of the Board on November 30, 2016. From 2000 to the date of his appointment with the Company, he was employed by Danaher Corporation, a manufacturer of professional instrumentation, industrial technologies, and tools and components. At Danaher, he initially served as Vice President, Business Development. He was promoted to President of a division of Danaher's Motion Group and later to Group Executive of the Motion

Group. Earlier, he was Vice President of Marketing and General Manager with Scientific Technologies Inc. He has a B.S. in Mechanical Engineering from Northwestern University and an M.B.A. from the University of California at Berkeley Haas School of Business.

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Brian Anderson was appointed Senior Vice President, Legal, General Counsel and Corporate Secretary in April 2015. Prior to that, he served as Corporate Attorney for the Company from May 2008 through March 2015. Prior to joining Belden, Mr. Anderson was in private practice at the law firm Lewis Rice. Mr. Anderson has a B.S.B. in Accounting and an M.B.A. from Eastern Illinois University and holds a J.D. from Washington University in St. Louis.

Henk Derksen has been Senior Vice President, Finance, and Chief Financial Officer since January 2012. Prior to that, he served as Vice President, Corporate Finance from July 2011 to December 2011 and Treasurer and Vice President, Financial Planning and Analysis of the Company from January 2010 to July 2011. In August of 2003, he became Vice President, Finance for the Company's EMEA division, after joining the Company at the end of 2000. Prior to joining the Company, he was Vice President and Controller of Plukon Poultry, a food processing company from 1998 to 2000, and has 5 years' experience in public accounting with Price Waterhouse and Baker Tilly. Mr. Derksen has a M.A. in Accounting from the University of Arnhem in the Netherlands and holds a doctoral degree in Business Economics in addition to an Executive Master of Finance & Control from Tias Business School in the Netherlands.

Dean McKenna was appointed Senior Vice President, Human Resources in May 2015. Prior to joining Belden, he was Vice President of Human Resources for the international business of SC Johnson. Prior to SC Johnson, he worked in various senior international human resource, organizational development and talent positions at Ingredion, Akzo Nobel and ICI Group PLC. He received his degree in Strategic Human Resource Management at the Nottingham Business School in the United Kingdom.

Glenn Pennycook has been Executive Vice President, Enterprise Solutions and Broadband Solutions since February 2017. Prior to that, Mr. Pennycook was Executive Vice President, Enterprise Solutions since May 2013. Before serving in that role, Mr. Pennycook as President of the Enterprise Solutions Division, after joining Belden in November 2008. Prior to joining the Company, he spent 5 years with Pregis Corporation as Director of Operations for Protective Packaging Europe, and was promoted to Managing Director for Western Europe in 2005. He has a degree in Chemical Engineering from McMaster University, Hamilton Ontario, Canada.

Ross Rosenberg was appointed Senior Vice President of Strategy & Corporate Development at the Company in February 2013, and became an executive officer in May 2014. Prior to joining the Company, he led corporate development and global marketing at First Solar, the world's largest provider of utility-scale solar power plant solutions. Prior to First Solar, Mr. Rosenberg ran a division of Danaher, a large diversified industrial technology company. At Danaher, he held several executive management roles, as well as vice president, marketing for a division and group vice president, strategy and business development. Mr. Rosenberg holds a B.S. in Accounting from University of Illinois, an M.B.A. from The Wharton School at the University of Pennsylvania and is a Certified Public Accountant.

Dhrupad Trivedi has been Executive Vice President, Network Solutions since January 2017. He became the Executive Vice President of the former Industrial IT Solutions segment and former Network Security Solutions segment in April 2013 and August 2016, respectively. Prior to that, he was responsible for the Corporate Development and Strategy function since joining Belden in January 2010. Earlier, he was President, Trapeze Networks. Prior to joining the Company, he was responsible for General Management and Corporate Development roles at JDS Uniphase. He has 18 years of experience in the Networking and Communications industry. Dhrupad has an MBA from Duke University and a Ph.D. in Electrical Engineering from University of Massachusetts, Amherst.

Paul Turner has been Senior Vice President, Sales since February 2017. Mr. Turner joined Belden in 2006, and has held a variety of roles of increasing responsibility within Belden's sales organization since that time. Before joining Belden, Mr. Turner spent five years in the private sector in a subcontract manufacturing company based in the United Kingdom, ultimately serving in the post of Managing Director. Prior to that experience, Mr. Turner spent 13 years

with the 3M Company in the United Kingdom, holding roles of increasing responsibility within 3M's commercial organization across the EMEA region.

Roel Vestjens has been Executive Vice President, Industrial Solutions and Broadcast IT Solutions since January 2017. Prior to that, he was the Executive Vice President, Broadcast Solutions since March 2014. Mr. Vestjens joined Belden in 2006 as Director of Marketing for the EMEA region. In April 2008, Mr. Vestjens was promoted to Director of Sales and Marketing for the Industrial Solutions business, and in January 2009, he was appointed General Manager of Belden's Wire and Cable Systems business in EMEA. Mr. Vestjens relocated to Asia in November 2010, and became President of the APAC OEM business, followed by President of all APAC Operations in May 2012. Mr. Vestjens joined Belden from Royal Philips Electronics where he held various European sales and marketing positions. Mr. Vestjens holds a bachelor degree in Electrical Engineering and a Master of Science and Management degree from Nyenrode Business University in the Netherlands.

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Doug Zink has been Vice President and Chief Accounting Officer since September 2013. Prior to that, he has served as the Company's Vice President, Internal Audit; Corporate Controller; and Director of Financial Reporting, after joining Belden in May 2007. Prior to joining the Company, he was a Financial Reporting Manager at TLC Vision Corporation, an eye care service company, from 2004 to 2007, and has five years of experience in public accounting with KPMG LLP and Arthur Andersen LLP. He holds Bachelor's and Master's Degrees in Accounting from Texas Christian University and is a Certified Public Accountant.

### Cautionary Information Regarding Forward-Looking Statements

We make forward-looking statements in this Annual Report on Form 10-K, in other materials we file with the SEC or otherwise release to the public, and on our website. In addition, our senior management might make forward-looking statements orally to investors, analysts, the media, and others. Statements concerning our future operations, prospects, strategies, financial condition, future economic performance (including growth and earnings) and demand for our products and services, and other statements of our plans, beliefs, or expectations, including the statements contained in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," that are not historical facts, are forward-looking statements. In some cases these statements are identifiable through the use of words such as "anticipate," "believe," "estimate," "forecast," "guide," "expect," "intend," "plan," "project," "target," "can," "could," "should," "will," "would," and similar expressions. The forward-looking statements we make are not guarantees of future performance and are subject to various assumptions, risks, and other factors that could cause actual results to differ materially from those suggested by these forward-looking statements. These factors include, among others, those set forth in the following section and in the other documents that we file with the SEC.

We expressly disclaim any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

### Item 1A. Risk Factors

Following is a discussion of some of the more significant risks that could materially impact our business. There may be additional risks that impact our business that we currently do not recognize as, or that are not currently, material to our business.

A challenging global economic environment or a downturn in the markets we serve could adversely affect our operating results and stock price in a material manner.

A challenging global economic environment could cause substantial reductions in our revenue and results of operations as a result of weaker demand by the end users of our products and price erosion. Price erosion may occur through competitors becoming more aggressive in pricing practices. A challenging global economy could also make it difficult for our customers, our vendors, and us to accurately forecast and plan future business activities. Our customers could also face issues gaining timely access to sufficient credit, which could have an adverse effect on our results if such events cause reductions in revenues, delays in collection, or write-offs of receivables. Further, the demand for many of our products is economically sensitive and will vary with general economic activity, trends in nonresidential construction, investment in manufacturing facilities and automation, demand for information and broadcast technology equipment, and other economic factors.

Global economic uncertainty could result in a significant decline in the value of foreign currencies relative to the U.S. dollar, which could result in a significant adverse effect on our revenues and results of operations; could make it extremely difficult for our customers and us to accurately forecast and plan future business activities; and could cause our customers to slow or reduce spending on our products and services. Economic uncertainty could also arise from fiscal policy changes in the countries in which we operate.

Changes in foreign currency rates and commodity prices can impact the buying power of our customers. For example, a strengthened U.S. dollar can result in relative price increases for our products for customers outside of the U.S., which can have a negative impact on our revenues and results of operations. Furthermore, customers' ability to invest in capital expenditures, such as our products, can depend upon proceeds from commodities, such as oil and gas markets. A decline in energy prices, therefore, can have a negative impact on our revenues and results of operations.

The global markets in which we operate are highly competitive.

We face competition from other manufacturers for each of our global business platforms and in each of our geographic regions. These companies compete on price, reputation and quality, product technology and characteristics, and terms. Some multinational competitors have greater engineering, financial, manufacturing, and marketing resources than we have. Actions that may be taken by competitors, including pricing, business alliances, new product introductions, market penetration, and other actions, could have

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a negative effect on our revenues and profitability. Moreover, some competitors that are highly leveraged both financially and operationally could become more aggressive in their pricing of products.

Volatility of credit markets could adversely affect our business.

Uncertainty in U.S. and global financial and equity markets could make it more expensive for us to conduct our operations and more difficult for our customers to buy our products. Additionally, market volatility or uncertainty may cause us to be unable to pursue or complete acquisitions. Our ability to implement our business strategy and grow our business, particularly through acquisitions, may depend on our ability to raise capital by selling equity or debt securities or obtaining additional debt financing. Market conditions may prevent us from obtaining financing when we need it or on terms acceptable to us.

We may be unable to achieve our goals related to growth.

In order to meet the goals in our strategic plan, we must grow our business, both organically and through acquisitions. Our goal is to generate total revenue growth of 5-7% per year in constant currency. We may be unable to achieve this desired growth due to a failure to identify growth opportunities, such as trends and technological changes in our end markets. We may ineffectively execute our Market Delivery System (“MDS”), which is designed to identify and capture growth opportunities. The broadcast, enterprise, and industrial end markets we serve may not experience the growth we expect. Further, those markets may be unable to sustain growth on a long-term basis, particularly in emerging markets. If we are unable to achieve our goals related to growth, it could have a material adverse effect on our results of operations, financial position, and cash flows.

We may be unable to implement our strategic plan successfully.

Our strategic plan is designed to continually enhance shareholder value by improving revenues and profitability, reducing costs, and improving working capital management. To achieve these goals, our strategic priorities are reliant on our Belden Business System, which includes continuing deployment of our MDS so as to capture market share through end-user engagement, channel management, outbound marketing, and careful vertical market selection; improving our recruitment and development of talented associates; developing strong global business platforms; acquiring businesses that fit our strategic plan; and becoming a leading Lean company. We have a disciplined process for deploying this strategic plan through our associates. There is a risk that we may not be successful in developing or executing these measures to achieve the expected results for a variety of reasons, including market developments, economic conditions, shortcomings in establishing appropriate action plans, or challenges with executing multiple initiatives simultaneously. For example, our MDS initiative may not succeed or we may lose market share due to challenges in choosing the right products to market or the right customers for these products, integrating products of acquired companies into our sales and marketing strategy, or strategically bidding against OEM partners. We may fail to identify growth opportunities. We may not be able to acquire businesses that fit our strategic plan on acceptable business terms, and we may not achieve our other strategic priorities.

We may be unable to achieve our strategic priorities in emerging markets.

Emerging markets are a significant focus of our strategic plan. The developing nature of these markets presents a number of risks. We may be unable to attract, develop, and retain appropriate talent to manage our businesses in emerging markets. Deterioration of social, political, labor, or economic conditions in a specific country or region may adversely affect our operations or financial results. Emerging markets may not meet our growth expectations, and we may be unable to maintain such growth or to balance such growth with financial goals and compliance requirements. Among the risks in emerging market countries are bureaucratic intrusions and delays, contract compliance failures, engrained business partners that do not comply with local or U.S. law, such as the Foreign Corrupt Practices Act,

fluctuating currencies and interest rates, limitations on the amount and nature of investments, restrictions on permissible forms and structures of investment, unreliable legal and financial infrastructure, regime disruption and political unrest, uncontrolled inflation and commodity prices, fierce local competition by companies with better political connections, and corruption. In addition, the costs of compliance with local laws and regulations in emerging markets may negatively impact our competitive position as compared to locally owned manufacturers.

The presence of substitute products in the marketplace may reduce demand for our products and negatively impact our business.

Fiber optic systems are increasingly substitutable for copper based cable systems. Customers may shift demand to fiber optic systems with greater capabilities than copper based cable systems, leading to a reduction in demand for copper based cable. We may not be able to offset the effects of a reduction in demand for our copper-based cable systems with an increase in demand for our existing fiber optic systems. Further, the supply chain in the fiber market is highly constrained, with a small number of vertically integrated firms controlling critical inputs and the related intellectual property. These factors, either together or in isolation, may negatively impact revenue and profitability.

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Our future success depends in part on our ability to develop and introduce new products and respond to changes in customer preferences.

Our markets are characterized by the introduction of products with increasing technological capabilities. Our success depends in part on our ability to anticipate and offer products that appeal to the changing needs and preferences of our customers in the various markets we serve. Developing new products and adapting existing products to meet evolving customer expectations requires high levels of innovation, and the development process may be lengthy and costly. If we are not able to anticipate, identify, develop and market products that respond to changes in customer preferences, demand for our products could decline.

The relative costs and merits of our solutions could change in the future as various competing technologies address the market opportunities. We believe that our future success will depend in part upon our ability to enhance existing products and to develop and manufacture new products that meet or anticipate technological changes, which will require continued investment in engineering, research and development, capital equipment, marketing, customer service, and technical support. We have long been successful in introducing successive generations of more capable products, but if we were to fail to keep pace with technology or with the products of competitors, we might lose market share and harm our reputation and position as a technology leader in our markets. See the discussion above in Part I, Item 1, under Research and Development.

The increased prevalence of cloud computing may negatively impact certain aspects of our business.

The nature in which many of our products are purchased or used is evolving with the increasing prevalence of cloud computing and other methods of off-premises computing and data storage. This may negatively impact one or more of our business in a number of ways, including:

- Consolidation of procurement power leading to the commoditization of IT products;
- Reduction in the demand for infrastructure products previously used to support on-site data centers;
- Lowering barriers to entry for certain markets, leading to new market entrants and enhanced competition;
- Preferences for software as a service billing and pricing models may reduce demand for non-cloud “packaged” software.

Alterations to our product mix and go-to-market strategies designed to respond to the changes in the marketplace presented by cloud computing may be disruptive to our business and lead to increase expenses, which may result in lower revenues and profitability. Further, if a competitor is able to more quickly or efficiently adapt, or if cloud computing results in significantly lower barriers to entry and new competitors enter our markets, demand for our products may be reduced.

We must complete further acquisitions in order to achieve our strategic plan.

In order to meet the goals in our strategic plan, we must complete further acquisitions. The extent to which appropriate acquisitions are made will affect our overall growth, operating results, financial condition, and cash flows. Our ability to acquire businesses successfully will decline if we are unable to identify appropriate acquisition targets consistent with our strategic plan, the competition among potential buyers increases, the cost of acquiring suitable businesses becomes too expensive, or we lack sufficient sources of capital. As a result, we may be unable to make acquisitions or be forced to pay more or agree to less advantageous acquisition terms for the companies that we are able to acquire.

We may have difficulty integrating the operations of acquired businesses, which could negatively affect our results of operations and profitability.

We may have difficulty integrating acquired businesses and future acquisitions might not meet our performance expectations. Some of the integration challenges we might face include differences in corporate culture and management styles, additional or conflicting governmental regulations, preparation of the acquired operations for adoption of ASC 606, compliance with the Sarbanes-Oxley Act of 2002, financial reporting that is not in compliance with U.S. generally accepted accounting principles, disparate company policies and practices, customer relationship issues, and retention of key personnel. In addition, management may be required to devote a considerable amount of time to the integration process, which could decrease the amount of time we have to manage the other businesses. We may not be able to integrate operations successfully or cost-effectively, which could have a negative impact on our results of operations or our profitability. The process of integrating operations could also cause some interruption of, or the loss of momentum in, the activities of acquired businesses.



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Our results of operations are subject to foreign and domestic political, economic, and other uncertainties and are affected by changes in currency exchange rates.

In addition to manufacturing and other operating facilities in the U.S., we have manufacturing and other operating facilities in Brazil, Canada, China, Japan, Mexico, St. Kitts, and several European countries. We rely on suppliers in many countries, including China. Our foreign operations are subject to economic and political risks inherent in maintaining operations abroad such as economic and political destabilization, land use risks, international conflicts, restrictive actions by foreign governments, and adverse foreign tax laws. In addition to economic and political risk, a risk associated with our European manufacturing operations is the higher relative expense and length of time required to adjust manufacturing employment capacity. We also face political risks in the U.S., including tax or regulatory risks or potential adverse impacts from legislative impasses over, or significant legislative, regulatory or executive changes in fiscal or monetary policy and other foreign and domestic government policies, including, but not limited to, trade policies and import/export policies.

Approximately 47% of our sales are outside the U.S. Other than the U.S. dollar, the principal currencies to which we are exposed through our manufacturing operations, sales, and related cash holdings are the euro, the Canadian dollar, the Hong Kong dollar, the Chinese yuan, the Japanese yen, the Mexican peso, the Australian dollar, the British pound, and the Brazilian real. Generally, we have revenues and costs in the same currency, thereby reducing our overall currency risk, although any realignment of our manufacturing capacity among our global facilities could alter this balance. When the U.S. dollar strengthens against other currencies, the results of our non-U.S. operations are translated at a lower exchange rate and thus into lower reported revenues and earnings.

Changes in tax laws may adversely affect our financial position.

On December 22, 2017, the “Tax Cuts and Jobs Act” (the “Act”) was signed into law. The Act significantly reforms the Internal Revenue Code of 1986, as amended. The Act, among other things, includes changes to U.S. federal tax rates, imposes significant additional limitations on the deductibility of interest, allows for the immediate expensing of capital expenditures, and puts into effect the migration from a worldwide system of taxation to a territorial system and imposes several other changes to tax law on U.S. corporations. As many of the provisions of the Act do not come into effect until 2018 and further clarification of the law is expected, the total impact on our financial position is uncertain and could be materially adverse.

In addition, many countries in the European Union, as well as a number of other countries and organizations such as the Organization for Economic Cooperation and Development, are actively considering changes to existing tax laws. If tax laws and related regulations change, our financial results could be materially impacted. Given the unpredictability of these possible changes and their potential interdependency, it is possible such changes could adversely impact our financial results.

We may experience significant variability in our quarterly and annual effective tax rate which would affect our reported net income.

We have a complex tax profile due to the global nature of our operations, which encompass multiple taxing jurisdictions. Variability in the mix and profitability of domestic and international activities, identification and resolution of various tax uncertainties, changes in tax laws and rates, and the extent to which we are able to realize net operating loss and other carryforwards included in deferred tax assets and avoid potential adverse outcomes included in deferred tax liabilities, among other matters, may significantly affect our effective income tax rate in the future.



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Our effective income tax rate is the result of the income tax rates in the various countries in which we do business. Our mix of income and losses in these jurisdictions affects our effective tax rate. For example, relatively more income in higher tax rate jurisdictions would increase our effective tax rate and thus lower our net income. Similarly, if we generate losses in tax jurisdictions for which no benefits are available; our effective income tax rate will increase. Our effective income tax rate may also be impacted by the recognition of discrete income tax items, such as required adjustments to our liabilities for uncertain tax positions or our deferred tax asset valuation allowance. A significant increase in our effective income tax rate could have a material adverse impact on our earnings.

Of our \$561.1 million cash and cash equivalents balance as of December 31, 2017, \$184.7 million was held outside of the U.S. in our foreign operations. The Tax Cuts and Jobs Act of 2017 included a one-time transition tax of unremitted foreign earnings, and accordingly, we recorded preliminary tax expense related to the transition tax on the one-time mandatory deemed repatriation of all our foreign earnings as of December 31, 2017. See Note 16 Income Taxes in the accompanying notes to our consolidated financial statements.

The increased influence of chief information officers and similar high-level executives may negatively impact demand for our products.

As a result of the increasing interconnectivity of a wide variety of systems, chief information officers and similar executives are becoming more heavily involved in operation areas that have not historically been associated with information technology. As a result, CIOs and IT departments are exercising increased influence over the procurement and purchasing process at the expense of engineers, plant managers and operation personnel that have historically driven demand for many of our products. When making purchasing decisions, CIO's often value interoperability, standardization, cloud-readiness and security over domain expertise and niche application knowledge. As a result of the increasing influences of CIOs and IT departments, we may face increased competition from IT-industry companies that have not traditionally had major presences in the markets in which we operate. Further, the variance in considerations that drive purchasing decisions between CIOs and those with niche application expertise may result in increased competition based on price and a reduction in demand for our products.

Potential problems with our information systems could interfere with our business and operations.

We rely on our information systems and those of third parties for storing proprietary company information about our products and intellectual property, as well as for processing customer orders, manufacturing and shipping products, billing our customers, tracking inventory, supporting accounting functions and financial statement preparation, paying our employees, and otherwise running our business. Any disruption, whether from hackers or other sources, in our information systems or those of the third parties upon whom we rely could have a significant impact on our business. In addition, we may need to enhance our information systems to provide additional capabilities and functionality. The implementation of new information systems and enhancements is frequently disruptive to the underlying business of an enterprise. Any disruptions affecting our ability to accurately report our financial performance on a timely basis could adversely affect our business in a number of respects. If we are unable to successfully implement potential future information systems enhancements, our financial position, results of operations, and cash flows could be negatively impacted.

We, and others on our behalf, store “personally identifiable information” (“PII”) with respect to employees, vendors, customers, and others. While we have implemented safeguards to protect the privacy of this information, it is possible that hackers or others might obtain this information. If that occurs, in addition to having to take potentially costly remedial action, we also may be subject to fines, penalties, lawsuits, and reputational damage.

Perceived failure of our signal transmission solutions to provide expected results may result in negative publicity and harm our business and operating results.

Our customers use our signal transmission solutions in a wide variety of IT systems and application environments in order to help reduce security vulnerabilities and demonstrate compliance. Despite our efforts to make clear in our marketing materials and customer agreements the capabilities and limitations of these products, some customers may incorrectly view the deployment of such products in their IT infrastructure as a guarantee that there will be no security breach or policy non-compliance event. As a result, the occurrence of a high profile security breach, or a failure by one of our customers to pass a regulatory compliance IT audit, could result in public and customer perception that our solutions are not effective and harm our business and operating results, even if the occurrence is unrelated to the use of such products or if the failure is the result of actions or inactions on the part of the customer.

Our use of open source software could negatively impact our ability to sell our products and may subject us to unanticipated obligations.

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The products, services, or technologies we acquire, license, provide, or develop may incorporate or use open source software. We monitor and restrict our use of open source software in an effort to avoid unintended consequences, such as reciprocal license grants, patent retaliation clauses, and the requirement to license our products at no cost. Nevertheless, we may be subject to unanticipated obligations regarding our products which incorporate or use open source software.

Changes in the price and availability of raw materials we use could be detrimental to our profitability.

Copper is a significant component of the cost of most of our cable products. Over the past few years, the prices of metals, particularly copper, have been highly volatile. Prices of other materials we use, such as polyvinylchloride (PVC) and other plastics derived from petrochemical feedstocks, have also been volatile. Generally, we have recovered much of the higher cost of raw materials through higher pricing of our finished products. The majority of our products are sold through distribution, and we manage the pricing of these products through published price lists which we update from time to time, with new prices typically taking effect a few weeks after they are announced. Some OEM contracts have provisions for passing through raw material cost changes, generally with a lag of a few weeks to three months. If we are unable to raise prices sufficiently to recover our material costs, our earnings could decline. If we raise our prices but competitors raise their prices less, we may lose sales, and our earnings could decline. If the price of copper were to decline, we may be compelled to reduce prices to remain competitive, which could have a negative effect on revenues. While we generally believe the supply of raw materials (copper, plastics, and other materials) is adequate, we have experienced instances of limited supply of certain raw materials, resulting in extended lead times and higher prices. If a supply interruption or shortage of materials were to occur (including due to labor or political disputes), this could have a negative effect on revenues and earnings.

Our revenue for any particular period can be difficult to forecast due to the unpredictable timing of large orders.

Our revenue for any particular period can be difficult to forecast, especially in light of the challenging and inconsistent global macroeconomic environment and related market uncertainty. Our revenue may grow at a slower rate than in past periods or even decline on a year-over-year basis.

The timing of large orders can have a significant effect on our operating results in the period in which the order is recognized as revenue. The timing of such orders is difficult to predict, and the timing of revenue recognition from such orders may affect period to period changes in revenue. As a result, our operating results could vary materially from quarter to quarter based on the receipt of such orders and their ultimate recognition as revenue. Similarly, we are often informed by our customers well in advance that such customer intends to place a large order related to a specific project in a given quarter. Such a customer's timeline for execution of the project, and the resulting purchase order, may be unexpectedly delayed to a future quarter, or cancelled. The frequency of such delays can be difficult to predict. As a result, it is difficult to precisely forecast revenue and operating results for future quarters.

Our revenue and profits would likely decline, at least temporarily, if we were to lose a key distributor.

We rely on several key distributors in marketing our products. Distributors purchase and carry the products of our competitors along with our products. Our largest distributor, Anixter International Inc., accounted for 12% of our revenue in 2017 and our top six distributors, including Anixter, accounted for a total of 23% of our revenue in 2017. If we were to lose one of these key distributors, our revenue and profits would likely decline, at least temporarily. Changes in the inventory levels of our products owned and held by our distributors can result in significant variability in our revenues. Further, certain distributors are allowed to return certain inventory in exchange for an order of equal or greater value. We have recorded reserves for the estimated impact of these inventory policies.

Consolidation of our distributors, particularly where the survivor relies more heavily on our competitors, could adversely impact our revenues and earnings. It could also result in consolidation of distributor inventory, which would temporarily depress our revenues. We have also experienced financial failure of distributors from time to time,

resulting in our inability to collect accounts receivable in full. A global economic downturn could cause financial difficulties (including bankruptcy) for our distributors and other customers, which would adversely affect our results of operations.

If we are unable to retain senior management and key employees, our business operations could be adversely affected.

Our success has been largely dependent on the skills, experience, and efforts of our senior management and key employees. The loss of any of our senior management or other key employees, for example sales and product development employees, could have an adverse effect on us. We may not be able to find qualified replacements for these individuals and the integration of potential replacements may be disruptive to our business. More broadly, a key determinant of our success is our ability to attract, develop, and retain talented associates. While this is one of our strategic priorities, we may not be able to succeed in this regard.

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We might have difficulty protecting our intellectual property from use by competitors, or competitors might accuse us of violating their intellectual property rights.

Disagreements about patents and other intellectual property rights occur in the markets we serve. Third parties have asserted and may in the future assert claims of infringement of intellectual property rights against us or against our customers or channel partners for which we may be liable. Furthermore, a successful claimant could secure a judgment that requires us to pay substantial damages or prevents us from distributing certain products or performing certain services. We may encounter difficulty enforcing our own intellectual property rights against third parties, which could result in price erosion or loss of market share.

We are subject to laws and regulations worldwide, changes to which could increase our costs and individually or in the aggregate adversely affect our business.

We are subject to laws and regulations affecting our domestic and international operations in a number of areas. These U.S. and foreign laws and regulations affect our activities including, but not limited to, in areas of labor, advertising, real estate, billing, e-commerce, promotions, quality of services, property ownership and infringement, tax, import and export requirements, anti-corruption, foreign exchange controls and cash repatriation restrictions, data privacy requirements, anti-competition, environmental, health and safety.

Compliance with these laws, regulations and similar requirements may be onerous and expensive, and they may be inconsistent from jurisdiction to jurisdiction, further increasing the cost of compliance and doing business. Any such costs, which may rise in the future as a result of changes in these laws and regulations or in their interpretation, could individually or in the aggregate make our products and services less attractive to our customers, delay the introduction of new products in one or more regions, or cause us to change or limit our business practices. We have implemented policies and procedures designed to ensure compliance with applicable laws and regulations, but there can be no assurance that our employees, contractors, or agents will not violate such laws and regulations or our policies and procedures.

Specifically with respect to data privacy, the European Commission has approved a data protection regulation, known as the General Data Protection Regulation (GDPR), which has been finalized and is due to come into force in or around May 2018. The GDPR will include operational requirements for companies that receive or process personal data of residents of the European Union that are different than those currently in place in the European Union, and that will include significant penalties for non-compliance. In addition, some countries are considering or have passed legislation implementing data protection requirements or requiring local storage and processing of data or similar requirements that could increase the cost and complexity of delivering our services.

If our goodwill or other intangible assets become impaired, we would be required to recognize charges that would reduce our income.

Under accounting principles generally accepted in the U.S., goodwill and certain other intangible assets are not amortized but must be reviewed for possible impairment annually or more often in certain circumstances if events indicate that the asset values may not be recoverable. We have incurred significant charges for the impairment of goodwill and other intangible assets in the past, and we may be required to do so again in future periods if the underlying value of our business declines. Such a charge would reduce our income without any change to our underlying cash flows.

Some of our employees are members of collective bargaining groups, and we might be subject to labor actions that would interrupt our business.

Some of our employees, primarily outside the U.S., are members of collective bargaining groups. We believe that our relations with employees are generally good. However, if there were a dispute with one of these bargaining groups, the affected operations could be interrupted, resulting in lost revenues, lost profit contribution, and customer dissatisfaction.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Belden owns and leases manufacturing, warehousing, sales, and administrative space in locations around the world. We also have a corporate office that we lease in St. Louis, Missouri. The leases are of varying terms, expiring from 2018 through 2027.



The table below summarizes the geographic locations of our manufacturing and other operating facilities utilized by our segments as of December 31, 2017.

	Broadcast Solutions	Enterprise Solutions	Industrial Solutions	Network Solutions	Utilized by Multiple Segments	Total
Brazil	—	—	1	—	—	1
Canada	1	—	1	—	—	2
China	1	—	—	—	1	2
Czech Republic	—	—	1	—	—	1
Denmark	1	1	—	—	—	2
Germany	—	—	2	2	—	4
Hungary	—	—	—	—	1	1
Italy	—	—	—	—	1	1
Japan	1	—	—	—	—	1
Mexico	1	—	—	—	2	3
Netherlands	1	—	1	—	—	2
St. Kitts	1	—	—	—	—	1
United Kingdom	2	—	—	—	—	2
United States	1	1	4	1	7	14
Total	10	2	10	3	12	37

In addition to the manufacturing and other operating facilities summarized above, our segments also utilize approximately 30 warehouses worldwide. As of December 31, 2017, we owned or leased a total of approximately 7 million square feet of facility space worldwide. We believe that our production facilities are suitable for their present and intended purposes and adequate for our current level of operations.

### Item 3. Legal Proceedings

PPC Broadband, Inc. v. Corning Optical Communications RF, LLC - On July 5, 2011, the Company's wholly-owned subsidiary, PPC Broadband, Inc. ("PPC"), filed an action for patent infringement in the U.S. District Court for the Northern District of New York against Corning Optical Communications RF LLC ("Corning"). The Complaint alleged that Corning infringed two of PPC's patents - U.S. Patent Nos. 6,558,194 and 6,848,940 - each entitled "Connector and Method of Operation." In July 2015, a jury found that Corning willfully infringed both patents. In November 2016, following a series of post-trial motions, the trial judge issued rulings for a total judgment in our favor of approximately \$61.3 million. On December 2, 2016, Corning appealed the case to the U.S. Court of Appeals for the Federal Circuit, and that appeal remains pending. We have not recorded any amounts in our consolidated financial statements related to this matter due to the pendency of the appeal.

We are also a party to various legal proceedings and administrative actions that are incidental to our operations. In our opinion, the proceedings and actions in which we are involved should not, individually or in the aggregate, have a material adverse effect on our financial condition, operating results, or cash flows. However, since the trends and outcome of this litigation are inherently uncertain, we cannot give absolute assurance regarding the future resolution of such litigation, or that such litigation may not become material in the future.

### Item 4. Mine Safety Disclosures

Not applicable.

## PART II

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

Our common stock is traded on the New York Stock Exchange under the symbol "BDC."

As of February 9, 2018, there were 269 record holders of common stock of Belden Inc.

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We declared a dividend of \$0.05 per share of common stock in each quarter of 2017 and 2016. We anticipate that comparable cash dividends will continue to be paid quarterly in the foreseeable future.

## Common Stock Prices and Dividends

	2017 (By Quarter)			
	1	2	3	4
Dividends per common share	\$0.05	\$0.05	\$0.05	\$0.05
Common stock prices:				
High	\$79.88	\$78.93	\$81.35	\$86.85
Low	\$65.65	\$64.60	\$70.03	\$77.16

	2016 (By Quarter)			
	1	2	3	4
Dividends per common share	\$0.05	\$0.05	\$0.05	\$0.05
Common stock prices:				
High	\$62.78	\$67.19	\$75.91	\$81.33
Low	\$36.51	\$54.97	\$56.95	\$60.06

In May 2017, our Board of Directors authorized a share repurchase program, which allowed us to purchase up to \$200.0 million of our common stock through open market repurchases, negotiated transactions, or other means, in accordance with applicable securities laws and other restrictions. This program is funded by cash on hand and cash flows from operating activities. The program does not have an expiration date and may be suspended at any time at the discretion of the Company. During 2017 and from inception of the plan, we repurchased 0.3 million shares of our common stock under the program for an aggregate cost of \$25.0 million and an average price per share of \$79.75. Set forth below is information regarding our stock repurchases for the three months ended December 31, 2017.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Repurchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs
October 2, 2017 through November 5, 2017	—	\$ —	—	\$188,492,482
November 6, 2017 through December 3, 2017	42,094	84.22	42,094	184,947,439
December 4, 2017 through December 31, 2017	120,290	82.70	120,290	175,000,000
Total	162,384	\$ 83.09	162,384	\$175,000,000

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## Stock Performance Graph

The following graph compares the cumulative total shareholder return on Belden's common stock over the five-year period ended December 31, 2017, with the cumulative total return during such period of the Standard and Poor's 500 Stock Index and the Standard and Poor's 1500 Industrials Index. The comparison assumes \$100 was invested on December 31, 2012, in Belden's common stock and in each of the foregoing indices and assumes reinvestment of dividends. The stock performance shown on the graph below represents historical stock performance and is not necessarily indicative of future stock price performance.

(1)The chart above and the accompanying data are "furnished," not "filed," with the SEC.

## Total Return To Shareholders

(Includes reinvestment of dividends)

Company Name / Index	ANNUAL RETURN PERCENTAGE					
	Years Ending December 31,					
	2013	2014	2015	2016	2017	
Belden Inc.	57.1	% 12.2	% (39.3)	% 57.3	% 3.5	%
S&P 500 Index	32.4	% 13.7	% 1.4	% 12.0	% 21.8	%
S&P 1500 Industrials Index	41.2	% 8.5	% (2.7)	% 20.4	% 21.1	%
INDEXED RETURNS						
Company Name / Index	Base Period 2012	Years Ending December 31,				
		2013	2014	2015	2016	2017
Belden Inc.	\$ 100.00	\$ 157.13	\$ 176.27	\$ 106.99	\$ 168.29	\$ 174.15
S&P 500 Index	100.00	132.39	150.51	152.59	170.84	208.14
S&P 1500 Industrials Index	100.00	141.19	153.15	149.00	179.40	217.19

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## Item 6. Selected Financial Data

	Years Ended December 31,					
	2017	2016	2015	2014	2013	
	(In thousands, except per share amounts and percentages)					
Balance sheet data:						
Total assets	\$3,840,613	\$3,806,803	\$3,290,602	\$3,232,202	\$2,728,687	
Long-term debt	1,560,748	1,620,161	1,725,282	1,736,954	1,341,470	
Long-term debt, including current maturities	1,560,748	1,620,161	1,727,782	1,739,454	1,343,970	
Total stockholders' equity	1,434,866	1,461,317	825,523	807,186	836,541	
Statement of operations data:						
Revenues	2,388,643	2,356,672	2,309,222	2,308,265	2,069,193	
Operating income	234,690	223,853	140,553	163,119	201,262	
Operating income margin	9.8	% 9.5	% 6.1	% 7.1	% 9.7	%
Income from continuing operations	92,853	127,646	66,508	74,432	104,734	
Basic income per share from continuing operations attributable to Belden common stockholders	1.38	2.67	1.57	1.72	2.39	
Diluted income per share from continuing operations attributable to Belden common stockholders	1.37	2.65	1.55	1.69	2.34	
Other data:						
Basic weighted average common shares outstanding	42,220	42,093	42,390	43,273	43,871	
Diluted weighted average common shares outstanding	42,643	42,557	42,953	43,997	44,737	
Dividends per common share	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	
Statement of cash flow data:						
Net cash provided by operating activities	255,300	314,794	241,460	200,887	175,335	
Adjusted results:						
Adjusted revenues	2,388,643	2,357,805	2,360,583	2,320,219	2,084,490	
Adjusted EBITDA	434,276	431,201	400,688	359,425	327,210	
Adjusted EBITDA margin	18.2	% 18.3	% 17.0	% 15.5	% 15.7	%
Free cash flow	192,078	261,212	187,024	157,312	138,295	

**Consolidated Results**

Since 2013, we have grown our revenues by 15.4%, from \$2.1 billion in 2013 to \$2.4 billion in 2017, representing a 2.9% compounded annual growth rate for that period. The majority of our revenue growth has been the result of our inorganic initiatives, described below, as we have been operating in a period of modest end market growth rates.

The trends in our operating income and income from continuing operations from 2013-2017 have been impacted by a number of acquisitions, dispositions, productivity improvement programs, and other matters, as follows:

During 2017, we recognized a \$52.4 million loss on debt extinguishment related to our debt refinancing transactions during the year; severance, restructuring, and acquisition integration costs of \$42.8 million related to a number of productivity improvement programs; and acquired Thinklogical Holdings, LLC in our fiscal second quarter.

During 2016, we recognized severance, restructuring, and acquisition integration costs of \$38.8 million related to a number of productivity improvement programs. In addition, we acquired M2FX Limited in our fiscal first quarter.

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During 2015, we recognized severance, restructuring, and acquisition integration costs of \$47.2 million related to a number of productivity improvement programs. In addition, we acquired Tripwire in our fiscal first quarter. We also recognized \$9.2 million of compensation expense related to the accelerated vesting of acquiree stock based compensation awards related to our acquisition of Tripwire.

During 2014, we recognized severance, restructuring, and acquisition integration costs of \$70.8 million related to the integration of acquired businesses and a productivity improvement program. In 2014, we acquired Grass Valley, ProSoft, and Coast. We recognized purchase accounting effects related to acquisitions, including the adjustment of acquired inventory to fair value, of \$8.4 million.

During 2013, we recognized severance and other restructuring costs, including accelerated depreciation expense, of \$19.8 million, primarily related to plant consolidation activities in our Broadcast segment, and purchase accounting effects related to acquisitions, including the adjustment of acquired inventory to fair value, of \$6.6 million. In 2013, we acquired Softel in our fiscal first quarter.

See further discussion of our acquisitions and productivity improvement programs in Notes 3 and 13 to the Consolidated Financial Statements.

Since 2013, we have grown our operating cash flow by 45.6%, from \$175.3 million in 2013 to \$255.3 million in 2017, representing a 7.8% compounded annual growth rate for that period. Our strong operating cash flow is driven by our earnings growth, coupled with our efficient use of working capital.

### Adjusted Results

Since 2013, we have grown our Adjusted Revenues by 14.6%, from \$2.1 billion in 2013 to \$2.4 billion in 2017, representing a 2.8% compounded annual growth rate for that period. The majority of our Adjusted Revenue growth has been the result of our inorganic initiatives, described above, as we have been operating in a period of modest end market growth rates.

We have grown our Adjusted EBITDA by 32.7%, from \$327.2 million in 2013 to \$434.3 million in 2017, representing a 5.8% compounded annual growth rate for that period. Adjusted EBITDA has grown due to the results of our inorganic initiatives, described above, which have transformed our product portfolio. Importantly, however, our Adjusted EBITDA has also grown due to the impact of productivity improvement programs, as we are committed to continuously improving our cost structure in a low organic growth environment. Furthermore, our Adjusted EBITDA has improved as Lean enterprise techniques have been applied at our acquired companies. These factors have all led to the improvement in Adjusted EBITDA margins from 15.7% in 2013 to 18.2% in 2017.

Since 2013, our free cash flow has increased by 38.9% from \$138.3 million in 2013 to \$192.1 million in 2017, representing a 6.8% compounded annual growth rate for that period. Our strong free cash flow is driven by our earnings growth, coupled with our efficient use of working capital and fixed assets.

### Use of Non-GAAP Financial Information

Adjusted Revenues, Adjusted EBITDA, Adjusted EBITDA margin, and free cash flow are non-GAAP financial measures. In addition to reporting financial results in accordance with accounting principles generally accepted in the United States, we provide non-GAAP operating results adjusted for certain items, including: asset impairments; accelerated depreciation expense due to plant consolidation activities; purchase accounting effects related to acquisitions, such as the adjustment of acquired inventory and deferred revenue to fair value, and transaction costs; severance, restructuring, and acquisition integration costs; gains (losses) recognized on the disposal of businesses and tangible assets; amortization of intangible assets; gains (losses) on debt extinguishment; certain revenues and gains (losses) from patent settlements; discontinued operations; and other costs. We adjust for the items listed above in all periods presented, unless the impact is clearly immaterial to our financial statements. When we calculate the tax effect of the adjustments, we include all current and deferred income tax expense commensurate with the adjusted measure of pre-tax profitability.

We utilize the adjusted results to review our ongoing operations without the effect of these adjustments and for comparison to budgeted operating results. We believe the adjusted results are useful to investors because they help them compare our results to previous periods and provide important insights into underlying trends in the business and how management oversees our business operations on a day-to-day basis. As an example, we adjust for the purchase

accounting effect of recording deferred revenue at fair value in order to reflect the revenues that would have otherwise been recorded by acquired businesses had they remained as independent entities. We believe this presentation is useful in evaluating the underlying performance of acquired companies. Similarly, we adjust for other acquisition-related expenses, such as amortization of intangibles and other impacts of fair value

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adjustments because they generally are not related to the acquired businesses' core business performance. As an additional example, we exclude the costs of restructuring programs, which can occur from time to time for our current businesses and/or recently acquired businesses. We exclude the costs in calculating adjusted results to allow us and investors to evaluate the performance of the business based upon its expected ongoing operating structure. We believe the adjusted measures, accompanied by the disclosure of the costs of these programs, provides valuable insight.

We define free cash flow, which is a non-GAAP financial measure, as net cash from operating activities adjusted for capital expenditures net of the proceeds from the disposal of tangible assets. Prior to 2017, free cash flow was also adjusted for cash payments for severance and other costs for the integration of our acquisition of Grass Valley, non-recurring tax payments related to certain divestitures, and the settlement of a tax sharing agreement. The prior periods have been recasted to conform with this change in the definition of free cash flow. We believe free cash flow provides useful information to investors regarding our ability to generate cash from business operations that is available for acquisitions and other investments, service of debt principal, dividends and share repurchases. We use free cash flow, as defined, as one financial measure to monitor and evaluate performance and liquidity. Non-GAAP financial measures should be considered only in conjunction with financial measures reported according to accounting principles generally accepted in the United States. Our definition of free cash flow may differ from definitions used by other companies.

Adjusted results should be considered only in conjunction with results reported according to accounting principles generally accepted in the United States. The following tables reconcile our GAAP results to our non-GAAP financial measures:

	December 31, 2015	December 31, 2016	Years Ended December 31, 2015	December 31, 2016	December 31, 2013
	(In thousands, except percentages)				
GAAP revenues	\$ 2,388,643	\$ 2,356,672	\$ 2,309,222	\$ 2,308,265	\$ 2,069,193
Deferred revenue adjustments (1)	—	6,687	51,361	11,954	15,297
Patent settlement (2)	—	(5,554 )	—	—	—
Adjusted revenues	\$ 2,388,643	\$ 2,357,805	\$ 2,360,583	\$ 2,320,219	\$ 2,084,490
GAAP net income attributable to Belden	\$ 93,210	\$ 128,003	\$ 66,204	\$ 74,449	\$ 103,313
Interest expense, net	82,901	95,050	100,613	81,573	72,601
Loss on debt extinguishment	52,441	2,342	—	—	1,612
Income tax expense (benefit)	6,495	(1,185 )	(26,568 )	7,114	22,315
Loss (Income) from discontinued operations	—	—	242	(579 )	1,421
Loss from disposal of discontinued operations	—	—	86	562	—
Noncontrolling interest	(357 )	(357 )	(24 )	—	—
Amortization of intangible assets	103,997	98,385	103,791	58,426	50,803
Amortization of software development intangible assets	56	—	—	—	—
Depreciation expense	45,597	47,208	46,551	43,736	43,648
Severance, restructuring, and acquisition integration costs (3)	42,790	38,770	47,170	70,827	14,888
Impairment of assets held for sale (4)	—	23,931	—	—	—



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Deferred gross profit adjustments <sup>(1)</sup>	—	6,687	52,876	10,777	11,337	
Purchase accounting effects related to acquisitions <sup>(5)</sup>	6,133	(2,079 )	9,747	12,540	6,550	
Patent settlement <sup>(2)</sup>	—	(5,554 )	—	—	—	
Loss (gain) on sale of assets <sup>(4)</sup>	1,013	—	—	—	(1,278 )	
Adjusted EBITDA	\$ 434,276	\$ 431,201	\$ 400,688	\$ 359,425	\$ 327,210	
GAAP net income margin	3.9	% 5.4	% 2.9	% 3.2	% 5.0	%
Adjusted EBITDA margin	18.2	% 18.3	% 17.0	% 15.5	% 15.7	%

Our adjusted results include revenues that would have been recorded by acquired businesses had they remained as (1) independent entities. Our consolidated results do not include these revenues due to the purchase accounting effect of recording deferred revenue at fair value.

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(2) Both our consolidated revenues and gross profit were positively impacted by royalty revenues received during 2016 that related to years prior to 2016 as a result of a patent settlement.

(3) See Note 13 to the Consolidated Financial Statements, Severance, Restructuring, and Acquisition Integration Activities, for details.

(4) In 2017 and 2016, we recognized a \$1.0 million loss on sale of assets and \$23.9 million impairment of assets held for sale, respectively, for the sale of our MCS business and Hirschmann JV. See Note 4, Assets Held for Sale, for details.

(5) In 2017, we recognized \$6.1 million of cost of sales related to the adjustment of acquired inventory to fair value for our Thinklogical acquisition. In 2016, we made a \$3.2 million adjustment to reduce the earn-out liability associated with the M2FX acquisition. This adjustment was partially offset by \$0.8 million and \$0.2 million of cost of sales related to the adjustment of acquired inventory to fair value related our Enterprise segment and M2FX acquisition, respectively. In 2015, we recognized \$9.2 million of compensation expense related to the accelerated vesting of acquiree stock based compensation awards associated with our acquisition of Tripwire. In addition, we recognized \$0.3 million of cost of sales related to the adjustment of acquired inventory to fair value related to our acquisition of Coast and \$0.3 million of acquisition related transaction costs. In 2014, we recognized \$8.4 million of cost of sales related to the adjustment of acquired inventory to fair value for our acquisitions of Grass Valley, ProSoft, and Coast, as well as \$4.1 million of acquisition related transaction costs. In 2013, we recognized \$6.6 million of cost of sales related to the adjustment of acquired inventory to fair value for our acquisition of PPC Broadband. See Note 3 to the Consolidated Financial Statements, Acquisitions.

The following table reconciles our GAAP results to our non-GAAP financial measures:

	Years ended December 31,				
	2017	2016	2015	2014	2013
	(In thousands)				
Net cash provided by operating activities	\$255,300	\$314,794	\$241,460	\$200,887	\$175,335
Capital expenditures, net of proceeds from the disposal of tangible assets	(63,222 )	(53,582 )	(54,436 )	(43,575 )	(37,040 )
Free cash flow	\$192,078	\$261,212	\$187,024	\$157,312	\$138,295

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

#### Overview

We are an innovative signal transmission solutions company built around four global business platforms – Broadcast Solutions, Enterprise Solutions, Industrial Solutions, and Network Solutions. Our comprehensive portfolio of signal transmission solutions provides industry leading secure and reliable transmission of data, sound, and video for mission critical applications.

We strive to create shareholder value by:

• Delivering highly engineered signal transmission solutions for mission-critical applications in a diverse set of global markets;

• Maintaining a balanced product portfolio across end markets, applications, and geographies that allows for a disciplined approach to growth;

• Capturing additional market share by using our Market Delivery System to improve channel and end-user relationships and to concentrate sales efforts on customers in higher growth geographies and vertical end-markets;

• Managing our product portfolio to provide innovative and complete end-to-end solutions for our customers in applications for which we have operational expertise and can drive customer loyalty;

• Acquiring leading companies with innovative product portfolios and opportunities for synergies which fit within our strategic framework;

• Continuously improving our people, processes, and systems through scalable, flexible, and sustainable business systems for talent management, Lean enterprise, and acquisition cultivation and integration; and

• Protecting and enhancing the value of the Belden brands.

We believe our business system, balance across markets and geographies, systematic go-to-market approach, extensive portfolio of innovative solutions, commitment to Lean principles, and improving margin profile present a unique value proposition for our shareholders.

We consider Adjusted revenue growth on a constant currency basis, Adjusted EBITDA margin, free cash flows, and return on invested capital to be our key operating performance indicators. Our current business goals are to:

• Grow Adjusted Revenues on a constant currency basis by 5-7% per year, from a combination of end market growth, market share capture, and contributions from acquisitions;

• Achieve Adjusted EBITDA margins in the range of 20-22%;

• Achieve free cash flow growth in the range of 13-15%; and

• Realize return on invested capital of 13-15%.

#### Significant Trends and Events in 2017

The following trends and events during 2017 had varying effects on our financial condition, results of operations, and cash flows.

##### Foreign currency

Our exposure to currency rate fluctuations primarily relates to exchange rate movements between the U.S. dollar and the euro, Canadian dollar, Hong Kong dollar, Chinese yuan, Japanese yen, Mexican peso, Australian dollar, British pound, and Brazilian real. Generally, as the U.S. dollar strengthens against these foreign currencies, our revenues and earnings are negatively impacted as our foreign denominated revenues and earnings are translated into U.S. dollars at a lower rate. Conversely, as the U.S. dollar weakens against foreign currencies, our revenues and earnings are positively impacted.

In addition to the translation impact described above, currency rate fluctuations have an economic impact on our financial results. As the U.S. dollar strengthens or weakens against foreign currencies, it results in a relative price increase or decrease for certain of our products that are priced in U.S. dollars in a foreign location.



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### Commodity Prices

Our operating results can be affected by changes in prices of commodities, primarily copper and compounds, which are components in some of the products we sell. Generally, as the costs of inventory purchases increase due to higher commodity prices, we raise selling prices to customers to cover the increase in costs, resulting in higher sales revenue but a lower gross profit percentage. Conversely, a decrease in commodity prices would result in lower sales revenue but a higher gross profit percentage. Selling prices of our products are affected by many factors, including end market demand, capacity utilization, overall economic conditions, and commodity prices. Importantly, however, there is no exact measure of the effect of changing commodity prices, as there are thousands of transactions in any given quarter, each of which has various factors involved in the individual pricing decisions. Therefore, all references to the effect of copper prices or other commodity prices are estimates.

### Channel Inventory

Our operating results also can be affected by the levels of Belden products purchased and held as inventory by our channel partners and customers. Our channel partners and customers purchase and hold our products in their inventory in order to meet the service and on-time delivery requirements of their customers. Generally, as our channel partners and customers change the level of Belden products owned and held in their inventory, it impacts our revenues. Comparisons of our results between periods can be impacted by changes in the levels of channel inventory. We are dependent upon our channel partners to provide us with information regarding the amount of our products that they own and hold in their inventory. As such, all references to the effect of channel inventory changes are estimates.

### Market Growth and Market Share

The markets in which we operate can generally be characterized as highly competitive and highly fragmented, with many players. Based on available data for our served markets, we estimate that our market share across our segments is significant, ranging from approximately 5% - 20%. A substantial acquisition in one of our served markets would be necessary to meaningfully change our estimated market share percentage. We monitor available data regarding market growth, including independent market research reports, publicly available indices, and the financial results of our direct and indirect peer companies, in order to estimate the extent to which our served markets grew or contracted during a particular period. We generally expect that our unit sales volume will increase or decrease consistently with the market growth rate. Our strategic goal is to utilize our Market Delivery System to target faster growing geographies, applications, and trends within our end markets, in order to achieve growth that is higher than the general market growth rate. To the extent that we exceed the market growth rates, we consider it to be the result of capturing market share.

### Operating Segments

To leverage the Company's strengths in networking, IoT, and cybersecurity technologies, effective January 1, 2017, we formed a new segment called Network Solutions, which represents the combination of the prior Industrial IT Solutions and Network Security Solutions segments. The formation was a natural evolution in our organic and inorganic strategies for a range of industrial and non-industrial applications. We revised the prior period segment information to conform to the change in the composition of these reportable segments. In connection with this change, we re-evaluated the useful life of the Tripwire trademark and concluded that an indefinite life is no longer appropriate. We have estimated a useful life of 10 years and will re-evaluate this estimate if and when our expected use of the Tripwire trademark changes. We began amortizing the Tripwire trademark in the first quarter of 2017, which resulted in amortization expense of \$3.1 million for the year ended December 31, 2017. As of December 31, 2017, the net book value of the Tripwire trademark was \$27.9 million. See Notes 6 and 11.

### Acquisitions

We completed the acquisitions of Thinklogical Holdings, LLC (Thinklogical) on May 31, 2017; M2FX Limited (M2FX) on January 7, 2016; and Tripwire Inc. (Tripwire) on January 2, 2015. The results of Thinklogical and M2FX have been included in our Consolidated Financial Statements from their respective acquisition dates and are reported in the Broadcast Solutions segment. The results of Tripwire have been included in our Consolidated Financial Statements from the acquisition date and are reported in the Network Solutions segment.

### Assets Held for Sale

During the fourth quarter of 2016, we committed to a plan to sell our MCS business and Hirschmann JV and determined that we met all of the criteria to classify the assets and liabilities of these businesses as held for sale. During 2016, we reached an agreement in principle to sell this disposal group for a total sales price of \$39 million. As the carrying value of the disposal group exceeded

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the fair value less costs to sell, which we determined based on the expected sales price, by \$23.9 million, we recognized an impairment charge equal to this amount in 2016. Effective December 31, 2017, we sold the MCS business and Hirschmann JV and recognized a loss on sale of the assets of \$1.0 million. See Note 4.

**Long-Term Debt**

In July 2017, we issued €450.0 million aggregate principal amount of new senior subordinated notes due 2027 at an interest rate of 3.375%. We used the net proceeds of this offering and cash on hand to repurchase all of our outstanding \$700.0 million 5.5% senior subordinated notes due 2022. In September 2017, we issued €300.0 million aggregate principal amount of new senior subordinated notes due 2025 at an interest rate of 2.875%. We used the net proceeds of this offering to repurchase €300.0 million of our outstanding €500.0 million 5.5% senior subordinated notes due 2023. We recognized a loss on debt extinguishment of approximately \$51.6 million for the premium paid to the bond holders to retire the 2022 and 2023 notes and for the unamortized debt issuance costs that we wrote off. In connection with these debt transactions, we paid \$15.0 million of fees, which we will amortize over the life of the respective Notes. Additionally, in June 2017, we repaid all of the outstanding \$5.2 million aggregate principal amount of 9.25% senior subordinated notes due 2019, plus accrued interest, and recognized an immaterial loss on debt extinguishment related to unamortized debt issuance costs.

In May 2017, we entered into an Amended and Restated Credit Agreement (the Revolver) to amend and restate our prior Revolving Credit Agreement. The Revolver provides a \$400.0 million multi-currency asset-based revolving credit facility. We recognized a \$0.8 million loss on debt extinguishment for unamortized debt issuance costs related to creditors no longer participating in the new Revolver. In connection with executing the Revolver, we paid \$2.3 million of fees to creditors and third parties that we will amortize over the remaining term of the Revolver. As of December 31, 2017, we had no borrowings outstanding on the Revolver, and our available borrowing capacity was \$348.6 million. See Note 14.

**Productivity Improvement Programs****Industrial Manufacturing Footprint Program: 2016-2017**

In the first quarter of 2016, we began a program to consolidate our manufacturing footprint. The manufacturing consolidation is expected to be completed in 2018. We recognized \$30.6 million and \$17.8 million of severance and other restructuring costs for this program during 2017 and 2016, respectively. The costs were incurred by the Enterprise Solutions and Industrial Solutions segments, as the manufacturing locations involved in the program serve both platforms. To date, we have incurred a total of \$48.4 million in severance and other restructuring costs, including manufacturing inefficiencies for this program. We expect to incur approximately \$6 million of additional severance and other restructuring costs for this program in 2018. We expect that the program will generate approximately \$13 million of savings on an annualized basis, which we began to realize in the third quarter of 2017.

**Results of Operations****Consolidated Income from Continuing Operations before Taxes**

	2017	2016	2015	Percentage Change		
				2017 vs. 2016	2016 vs. 2015	
	(In thousands, except percentages)					
Revenues	\$2,388,643	\$2,356,672	\$2,309,222	1.4	%	2.1
Gross profit	934,039	980,994	918,173	(4.8)	)%	6.8
Selling, general and administrative expenses	461,022	494,224	525,518	(6.7)	)%	(6.0)
Research and development	134,330	140,601	148,311	(4.5)	)%	(5.2)
Amortization of intangibles	103,997	98,385	103,791	5.7	%	(5.2)
Impairment of assets held for sale	—	23,931	—	(100.0)	)%	n/a

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Operating income	234,690	223,853	140,553	4.8	%	59.3	%
Interest expense, net	82,901	95,050	100,613	(12.8	)%	(5.5	)%
Loss on debt extinguishment	52,441	2,342	—	2,139.2	%	n/a	
Income from continuing operations before taxes	99,348	126,461	39,940	(21.4	)%	216.6	%

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## 2017 Compared to 2016

Revenues increased in 2017 from 2016 due to the following factors:

• Acquisitions contributed \$30.8 million to the increase in revenues.

• Higher copper costs contributed \$13.0 million to the increase in revenues.

• Currency translation had a \$12.2 million favorable impact on revenues.

• Lower sales volume resulted in a \$24.1 million decrease in revenues.

Gross profit decreased \$47.0 million in 2017 from 2016, and gross profit margin decreased 250 basis points from 41.6% in 2016 to 39.1% in 2017. The decrease in gross profit and margin is primarily attributable to the decrease in lower sales volume discussed above; increases in severance, restructuring, and acquisition integration costs; and increases in copper costs. Increases in copper prices result in higher revenues as discussed above, but as they have minimal impact to gross profit dollars, resulting in lower gross profit margins. Gross profit for 2017 included \$32.6 million of severance, restructuring, and acquisition integration costs; \$6.1 million of cost of sales arising from the adjustment of inventory to fair value related to an acquisition; and \$0.8 million of accelerated depreciation in our Enterprise Solutions segment. Gross profit for 2016 included \$12.3 million of severance, restructuring, and acquisition integration costs; \$1.0 million of cost of sales arising from the adjustment of inventory to fair value related to acquisitions; and \$0.9 million of accelerated depreciation in our Enterprise Solutions segment.

Selling, general and administrative expenses decreased by \$33.2 million from 2016 to 2017 primarily due to a \$15.7 million decrease in severance, restructuring, and acquisition integration costs and improved productivity. Selling, general and administrative expenses included \$10.0 million of severance, restructuring, and integration costs in 2017 as compared to \$25.7 million in 2016. The remaining decrease is primarily due to realized benefits from our productivity improvement initiatives.

Research and development decreased by \$6.3 million in 2017 from 2016 primarily due to productivity improvement initiatives, which contributed \$8.8 million to the decline in research and development costs, partially offset by \$2.7 million from the acquisition of Thinklogical.

Amortization of intangibles increased \$5.6 million in 2017 from 2016 primarily due to the acquisition of Thinklogical and amortization from the Tripwire trademark, which we began amortizing in 2017. These increases were partially offset by the intangible assets classified as held for sale for which we ceased amortizing in the fourth quarter of 2016 (see Note 11).

In 2016, we recognized a \$23.9 million impairment of assets held for sale related to our MCS business and Hirschmann JV. The amount of the impairment of assets held for sale represents the excess carrying value over the fair value of the assets. See Note 4, Assets Held for Sale.

Operating income increased by \$10.8 million in 2017 from 2016 primarily due to the impairment of assets held for sale in the prior year and the decline in selling, general and administrative expenses; partially offset by the decline in gross profit discussed above.

Interest expense decreased \$12.2 million in 2017 from 2016 due to our recent financing activities. In July 2017, we issued €450.0 million aggregate principal amount of new senior subordinated notes due 2027 at an interest rate of 3.375%. We used the net proceeds of this offering and cash on hand to repurchase all of our outstanding \$700.0 million 5.5% senior subordinated notes due 2022. In September 2017, we issued €300.0 million aggregate principal amount of new senior subordinated notes due 2025 at an interest rate of 2.875%. We used the net proceeds of this offering to repurchase €300.0 million of our outstanding €500.0 million 5.5% senior subordinated notes due 2023. See Note 14.

Loss on debt extinguishment increased \$50.1 million in 2017 from 2016. The loss on debt extinguishment recognized in 2017 represents the premium paid to the bond holders to retire the 2022 and 2023 notes and for the unamortized debt issuance costs written off for the 2022 Notes, 2023 Notes, and creditors no longer participating in the Revolving Credit Agreement, which we refinanced in May 2017. The loss on debt extinguishment recognized in 2016 represents

the unamortized debt issuance costs written off for the Term Loan that we repaid in 2016. See Note 14. Income from continuing operations before taxes decreased by \$27.2 million from 2016 to 2017 primarily due to the increase in loss on debt extinguishment discussed above.

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## 2016 Compared to 2015

Revenues increased in 2016 from 2015 due to the following factors:

Increases in sales volume resulted in an increase in revenues of \$26.2 million. An increase in volume within our broadcast and enterprise markets was partially offset by soft demand for our industrial products. From a geographic perspective, volume growth was most notable in Asia and Europe.

Purchase accounting effects of recording deferred revenue at fair value primarily for our Tripwire acquisition resulted in a revenue increase of \$44.7 million in 2016 as compared to 2015.

Royalty revenues from a patent settlement in 2016 resulted in a revenue increase of \$10.3 million.

Acquisitions resulted in a revenue increase of \$6.6 million.

Lower copper costs resulted in a revenue decrease of \$22.7 million.

Unfavorable currency translation, primarily due to the strengthening U.S. dollar compared to the euro and the Canadian dollar, resulted in a revenue decrease of \$17.6 million.

Gross profit increased \$62.8 million in 2016 from 2015, and gross profit margin increased 180 basis points from 39.8% in 2015 to 41.6% in 2016. The increases in gross profit margins is primarily attributable to the increases in revenues discussed above and improved productivity as a result of our restructuring actions. Gross profit for 2016 included \$12.3 million of severance, restructuring, and acquisition integration costs; \$1.0 million of cost of sales arising from the adjustment of inventory to fair value related to acquisitions; and \$0.9 million of accelerated depreciation in our Enterprise Solutions segment. Gross profit for 2015 included \$9.4 million of severance, restructuring, and acquisition integration costs and \$0.3 million of cost of sales arising from the adjustment of inventory to fair value related to our acquisition of Coast.

Selling, general and administrative expenses decreased by \$31.3 million from 2015 to 2016 primarily due to \$9.2 million of compensation expense that we recognized in the prior year as a result of accelerating the vesting of certain acquiree equity awards at the closing of the Tripwire acquisition; a \$3.2 million benefit in 2016 as a result of reducing the M2FX earn-out liability to zero; realized benefits from our productivity improvement initiatives; and a reduction in severance, restructuring, and integration costs from the prior year. In 2016 and 2015, selling, general and administrative expenses included \$25.7 million and \$31.7 million, respectively, of severance, restructuring, and integration costs, representing a \$6.1 million decline over the prior year. Favorable currency translation contributed approximately \$6.0 million to the decline in selling, general and administrative expenses in 2016.

Research and development decreased by \$7.7 million in 2016 from 2015 primarily due to a decline of \$5.3 million of severance, restructuring, and integration costs. Favorable currency translation and productivity improvement initiatives also contributed \$1.8 million and \$1.3 million to the decrease in research and development in 2016, respectively.

Amortization of intangibles decreased \$5.4 million in 2016 from 2015 primarily due to favorable currency translation and certain intangible assets becoming fully amortized during 2016. These decreases were partially offset by approximately \$1.0 million from the acquisition of M2FX.

In 2016, we recognized a \$23.9 million impairment of assets held for sale related to our MCS business and Hirschmann JV. The amount of the impairment of assets held for sale represents the excess carrying value over the fair value of the assets. See Note 4, Assets Held for Sale.

Operating income increased by \$83.3 million from 2015 to 2016 primarily due to the increases in gross profit and decreases in selling, general and administrative expenses discussed above.

Interest expense decreased \$5.6 million in 2016 from 2015 due to our financing activities. During the fourth quarter of 2015 and the first quarter of 2016, we repaid \$150.0 million and \$50.0 million, respectively, outstanding under our Revolver, and in the fourth quarter of 2016, we issued €200.0 million (\$222.2 million at issuance) 4.125% Senior Subordinated notes due 2026 and paid off our \$250.0 million Term Loan. The net impact of these financing activities led to the decrease in interest expense for the year. We recognized a \$2.3 million loss on debt extinguishment for the unamortized debt issuance costs associated with the Term Loan.

Income from continuing operations before taxes increased by \$86.5 million from 2015 to 2016 primarily due to the increases in operating income discussed above.

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## Income Taxes

	2017	2016	2015	Percentage Change 2017 vs. 2016 vs. 2015		
	(In thousands, except percentages)					
Income before taxes	\$99,348	\$126,461	\$39,940	(21.4 )%	216.6	%
Income tax benefit (expense)	(6,495 )	1,185	26,568	(648.1)%	(95.5	)%
Effective tax rate	6.5	% (0.9	)%	(66.5	)%	

## 2017 Compared to 2016

We recognized income tax expense of \$6.5 million in 2017, representing an effective tax rate of 6.5%. The effective tax rate was impacted by the following significant factors:

On December 22, 2017, the “Tax Cuts and Jobs Act” (the “Act”) was signed into law, making significant changes to the U.S. Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial tax system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. The Company has calculated its best estimate of the impact of the Act in its year end income tax provision in accordance with its understanding of the Act and guidance available as of the date of this filing and as a result has recorded \$28.4 million as an additional income tax expense in the fourth quarter of 2017, the period in which the legislation was enacted. This provisional income tax expense is comprised of a \$36.0 million tax benefit for the remeasurement of deferred tax assets and liabilities to the 21% rate at which they are expected to reverse, offset with a one-time tax expense on deemed repatriation of \$29.1 million and a valuation allowance of \$35.3 million recorded against foreign tax credit carryovers that we no longer expect to be able to realize based upon the new tax law. The Company continues to analyze its provisional estimate regarding the non-deductibility of certain covered employee compensation associated with amendments to IRC section 162(m). As of the date of this filing, the Company reasonably believes that the impact of these changes is immaterial. We recognized a net tax benefit of \$19.8 million related to a foreign tax credit planning initiative that enabled us to recognize tax credits from a foreign jurisdiction. This \$19.8 million additional foreign tax credit generated in 2017 has been fully utilized in the current year.

- We also recognized a net tax benefit of \$27.1 million resulting from a non-taxable translation gain associated with a debt instrument that is treated as a loan for U.S. GAAP purposes but as equity for tax purposes.

The net tax benefit described above for 2017 was partially offset by \$2.2 million of tax expense to record a liability for uncertain tax positions primarily for our foreign jurisdictions.

Our income tax expense was also impacted by foreign tax rate differences. The statutory tax rates associated with our foreign earnings generally are lower than the 2017 statutory U.S. tax rate of 35%. This had the greatest impact on our income from continuing operations before taxes that is generated in Germany, Canada, and the Netherlands, which have statutory tax rates of approximately 28%, 26%, and 25%, respectively. Foreign tax rate differences reduced our income tax expense by approximately \$13.0 million and \$17.7 million in 2017 and 2016, respectively.

Our income tax expense and effective tax rate in future periods may be impacted by many factors, including our geographic mix of income and changes in tax laws.

As of December 31, 2017, we maintained a valuation allowance on our deferred tax assets of \$151.8 million. Of this amount, approximately \$104.3 million relates to net operating loss deferred tax assets for certain of our Grass Valley

entities. Certain Grass Valley entities have a history of significant tax losses in their various jurisdictions. We do not currently have sufficient history of taxable income in the relevant jurisdictions to support the realizability of the net operating losses.

The remaining \$47.5 million of valuation allowance primarily relates to deferred tax assets for certain U.S foreign tax credits and U.S. state net operating losses and tax credits. The \$35.3 million valuation allowance on the foreign tax credits is a direct result of the Act, as described above. The remaining \$12.2 million valuation allowance relates to state net operating losses and tax credits.

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While we have positive evidence in the form of projected sources of income, we determined that these state carryforward assets were not more likely than not realizable as of December 31, 2017 due to a history of net operating losses and tax credits expiring without being utilized in certain states and because the current forecast of income is not sufficient to utilize all of these state net operating losses and tax credits prior to expiration.

## 2016 Compared to 2015

We recognized an income tax benefit of \$1.2 million in 2016, representing an effective tax rate of (0.9%) . The effective tax rate was impacted by the following significant factors:

• We recognized a net tax benefit of \$13.3 million related to a foreign tax credit planning initiative that enabled us to recognize tax credits from a foreign jurisdiction.

• We also recognized a net tax benefit of \$9.2 million as a result of reducing deferred tax valuation allowances related to net operating loss carryforwards in foreign jurisdictions.

We also recognized a \$7.0 million tax benefit in 2016 for the reduction of deferred tax liabilities related to a previously completed acquisition. We secured a Private Letter Ruling from the Internal Revenue Service that effectively increased the tax basis in the acquired assets to the full fair value. Accordingly, a book-tax difference was eliminated, and we reversed deferred tax liabilities previously recorded, resulting in the tax benefit.

• We also recognized a \$4.7 million tax benefit in 2016 as the result of securing a significant tax deduction for a foreign currency loss by implementing several transactions related to our international tax structure.

The tax benefits described above for 2016 were partially offset by \$3.0 million of tax expense to record a liability for uncertain tax positions in one of our foreign jurisdictions.

Our income tax expense was also impacted by foreign tax rate differences. The statutory tax rates associated with our foreign earnings generally are lower than the statutory U.S. tax rate of 35%. This had the greatest impact on our income from continuing operations before taxes that is generated in Germany, Canada, and the Netherlands, which have statutory tax rates of approximately 28%, 26%, and 25%, respectively. Foreign tax rate differences reduced our income tax expense by approximately \$17.7 million and \$3.4 million in 2016 and 2015, respectively.

Our income tax expense and effective tax rate in future periods may be impacted by many factors, including our geographic mix of income and changes in tax laws.

As of December 31, 2016, we maintained a valuation allowance on our deferred tax assets of \$104.8 million. Of this amount, approximately \$91.6 million related to net operating loss deferred tax assets for certain of our Grass Valley entities. Certain Grass Valley entities have a history of significant tax losses in their various jurisdictions. We did not have sufficient history of taxable income in the relevant jurisdictions to support the realizability of the net operating losses.

The remaining \$13.2 million of valuation allowance primarily related to deferred tax assets for certain U.S. state net operating losses and tax credits. While we had positive evidence in the form of projected sources of income, we determined that these assets were not more likely than not realizable as of December 31, 2016 due to a history of net operating losses and tax credits expiring without being utilized in certain states and because the forecast of income was not sufficient to utilize all of these state net operating losses and tax credits prior to expiration.

## Consolidated Adjusted Revenues and Adjusted EBITDA

	2017	2016	2015	Percentage Change		
	(In thousands, except percentages)			2017 vs. 2016	2016 vs. 2015	
Adjusted Revenues	\$2,388,643	\$2,357,805	\$2,360,583	1.3 %	(0.1 %)	)%
Adjusted EBITDA	434,276	431,201	400,688	0.7 %	7.6 %	%
as a percent of adjusted revenues	18.2	% 18.3	% 17.0	%		

## 2017 Compared to 2016

Adjusted Revenues increased in 2017 from 2016 due to the following factors:

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- ▲ Acquisitions contributed \$30.8 million to the increase in revenues.
- Higher copper costs contributed \$13.0 million to the increase in revenues.
- Currency translation had a \$12.2 million favorable impact on revenues.
- ▼ Lower sales volume resulted in a \$25.2 million decrease in revenues.

Adjusted EBITDA increased \$3.1 million in 2017 from 2016 primarily due to productivity initiatives and the impact of acquisitions and currency translation; partially offset by lower sales volume.

### 2016 Compared to 2015

Adjusted Revenues decreased in 2016 from 2015 due to the following factors:

- ▼ Lower copper costs resulted in a revenue decrease of \$22.7 million.
  - Unfavorable currency translation, primarily due to the strengthening U.S. dollar compared to the euro and the Canadian dollar, resulted in a revenue decrease of \$17.6 million.
  - ▲ Increases in unit sales volume resulted in an increase in revenues of \$26.2 million. An increase in volume within our broadcast and enterprise markets was partially offset by soft demand for our industrial products. From a geographic perspective, volume growth was most notable in Asia and Europe.
  - ▲ Acquisitions resulted in a revenue increase of \$6.6 million.
  - ▲ Royalty revenues from a patent settlement resulted in a revenue increase of \$4.7 million.
- Adjusted EBITDA increased \$30.5 million in 2016 from 2015 primarily due to productivity initiatives, which contributed \$28.3 million of Adjusted EBITDA. In addition, Adjusted EBITDA increased due to favorable currency translation and acquisitions, with an impact of \$5.6 million and \$1.0 million, respectively. These factors were partially offset by unfavorable product mix.

### Use of Non-GAAP Financial Information

Adjusted Revenues, Adjusted EBITDA, Adjusted EBITDA margin, and free cash flow are non-GAAP financial measures. In addition to reporting financial results in accordance with accounting principles generally accepted in the United States, we provide non-GAAP operating results adjusted for certain items, including: asset impairments; accelerated depreciation expense due to plant consolidation activities; purchase accounting effects related to acquisitions, such as the adjustment of acquired inventory and deferred revenue to fair value, and transaction costs; severance, restructuring, and acquisition integration costs; gains (losses) recognized on the disposal of businesses and tangible assets; amortization of intangible assets; gains (losses) on debt extinguishment; certain revenues and gains (losses) from patent settlements; discontinued operations; and other costs. We adjust for the items listed above in all periods presented, unless the impact is clearly immaterial to our financial statements. When we calculate the tax effect of the adjustments, we include all current and deferred income tax expense commensurate with the adjusted measure of pre-tax profitability.

We utilize the adjusted results to review our ongoing operations without the effect of these adjustments and for comparison to budgeted operating results. We believe the adjusted results are useful to investors because they help them compare our results to previous periods and provide important insights into underlying trends in the business and how management oversees our business operations on a day-to-day basis. As an example, we adjust for the purchase accounting effect of recording deferred revenue at fair value in order to reflect the revenues that would have otherwise been recorded by acquired businesses had they remained as independent entities. We believe this presentation is useful in evaluating the underlying performance of acquired companies. Similarly, we adjust for other acquisition-related expenses, such as amortization of intangibles and other impacts of fair value adjustments because they generally are not related to the acquired businesses' core business performance. As an additional example, we exclude the costs of restructuring programs, which can occur from time to time for our current businesses and/or recently acquired businesses. We exclude the costs in calculating adjusted results to allow us and investors to evaluate the performance of the business based upon its expected ongoing operating structure. We believe the adjusted measures, accompanied

by the disclosure of the costs of these programs, provides valuable insight.

Adjusted results should be considered only in conjunction with results reported according to accounting principles generally accepted in the United States. See Item 6, Selected Financial Data, for the tables that reconcile our GAAP results to our non-GAAP financial measures.

#### Segment Results of Operations

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For additional information regarding our segment measures, see Note 6 to the Consolidated Financial Statements.

## Broadcast Solutions

	2017	2016	2015	Percentage Change		
				2017 vs. 2016	2016 vs. 2015	
	(In thousands, except percentages)					
Segment Revenues	\$725,139	\$769,753	\$739,970	(5.8 )%	4.0	%
Segment EBITDA	112,849	137,870	113,638	(18.1 )%	21.3	%
as a percent of segment revenues	15.6	% 17.9	% 15.4	%		

## 2017 Compared to 2016

Broadcast revenues decreased by \$44.6 million in 2017 as compared to 2016 primarily due to decreases in volume and a product line transfer to the Enterprise Solutions segment, which contributed \$70.7 million and \$5.4 million, respectively, to the decrease in revenues. The decrease in volume was most notable in our Grass Valley business. The decreases discussed above were partially offset by \$30.8 million of revenues from the acquisition of Thinklogical as well as \$0.6 million for the favorable impact of currency translation.

Broadcast EBITDA decreased \$25.0 million in 2017 as compared to 2016 primarily due to the decreases in revenues discussed above; partially offset by improved productivity resulting from of our restructuring actions and acquisition integration activities. Accordingly, Broadcast EBITDA margins declined 230 basis points from 17.9% in 2016 to 15.6% in 2017.

## 2016 Compared to 2015

Broadcast revenues increased by \$29.8 million from 2015 to 2016. Increases in volume resulted in a \$25.6 million increase in revenues. The increase in volume stems in part from the market's reaction for the segment's new and innovative IP solutions. Sales of our broadcast infrastructure products also benefited from a more stable U.S. dollar. The increase in volume was most notable outside of the United States. Broadcast revenues also included royalty revenues related to 2016 of \$4.7 million as a result of a patent settlement in 2016. This segment will continue to earn royalty revenues in 2017 and beyond. The acquisition of M2FX also contributed \$6.6 million to the increase in revenues. These factors were partially offset by unfavorable currency translation of \$7.1 million.

Broadcast EBITDA increased \$24.2 million from 2015 to 2016 primarily due to leverage on the increases in revenues discussed above, as well as improved productivity as a result of our restructuring actions and acquisition integration activities. Accordingly, Broadcast EBITDA margins expanded 250 basis points from 15.4% in 2015 to 17.9% in 2016.

## Enterprise Solutions

	2017	2016	2015	Percentage Change		
				2017 vs. 2016	2016 vs. 2015	
	(In thousands, except percentages)					
Segment Revenues	\$631,166	\$603,188	\$605,910	4.6 %	(0.4 )%	
Segment EBITDA	103,650	101,298	100,214	2.3 %	1.1	%
as a percent of segment revenues	16.4	% 16.8	% 16.5	%		

## 2017 Compared to 2016

Enterprise revenues increased \$28.0 million in 2017 as compared to 2016 primarily due to higher copper costs, which increased revenues by \$15.3 million. A product line transfer from our Broadcast Solutions segment contributed \$5.4 million to the increase in revenues year over year. Furthermore, increases in volume and currency translation had a \$4.0 million and \$3.3 million favorable impact on revenues, respectively.

Enterprise EBITDA increased \$2.4 million in 2017 as compared to 2016 primarily due to the increases in revenues discussed above. The 40 basis point decline in EBITDA margins was primarily attributable to the inability to fully and

timely pass through the rising copper costs to our customers.

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## 2016 Compared to 2015

The decrease in Enterprise revenues in 2016 from 2015 was primarily due to \$9.9 million and \$5.1 million impacts from lower copper costs and unfavorable currency translation, respectively. These decreases were partially offset by sales volume increases of \$12.3 million. Sales volume growth was broad-based globally, and most notable in Canada. Enterprise EBITDA increased in 2016 from 2015 due to the leverage on higher sales volume discussed above, partially offset by unfavorable currency translation. Accordingly, EBITDA margins improved to 16.8% in 2016 from 16.5% in 2015.

## Industrial Solutions

	2017	2016	2015	Percentage Change			
	(In thousands, except percentages)			2017 vs. 2016 vs. 2015			
Segment Revenues	\$628,458	\$585,476	\$603,350	7.3	%	(3.0)	)%
Segment EBITDA	119,642	101,248	99,941	18.2	%	1.3	%
as a percent of segment revenues	19.0	% 17.3	% 16.6	%			

## 2017 Compared to 2016

Industrial Solutions revenues increased \$43.0 million in 2017 as compared to 2016 primarily due to volume growth, higher copper costs, and favorable currency translation, which contributed \$23.6 million, \$14.5 million, and \$4.9 million, respectively, to the increase in revenues year over year. Our robust growth in volume stems from our continued strength in discrete manufacturing, our largest vertical.

Industrial EBITDA increased \$18.4 million in 2017 as compared to 2016 primarily due to leverage on volume and productivity improvements. Accordingly, Industrial Solutions EBITDA margins expanded 170 basis points to 19.0%.

## 2016 Compared to 2015

The decrease in Industrial revenues in 2016 from 2015 was primarily due to lower copper costs, unfavorable currency translation, and volume decreases of \$12.6 million, \$4.9 million, and \$0.4 million, respectively. The sales volume declines stemmed from the impact of lower energy prices, which resulted in lower capital spending for industrial projects. Sales volume was most notably down in North America and Latin America, with some offsets in Europe with discrete manufacturers.

Industrial EBITDA increased in 2016 as compared to 2015 primarily due to productivity improvements resulting from our restructuring actions. Accordingly, EBITDA margins improved from 16.6% in 2015 to 17.3% in 2016.

## Network Solutions

	2017	2016	2015	Percentage Change			
	(In thousands, except percentages)			2017 vs. 2016 vs. 2015			
Segment Revenues	\$403,880	\$399,388	\$411,353	1.1	%	(2.9)	)%
Segment EBITDA	93,893	92,773	87,873	1.2	%	5.6	%
as a percent of segment revenues	23.2	% 23.2	% 21.4	%			

## 2017 Compared to 2016

Network Solutions revenues increased \$4.5 million in 2017 as compared to 2016, primarily due to favorable currency translation and volume growth of \$3.5 million and \$1.0 million, respectively.

Network Solutions EBITDA increased \$1.1 million in 2017 as compared to 2016 due to the growth in revenues discussed above. However, EBITDA margins remained flat at 23.2% primarily as a result of increased investment in research and development.

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## 2016 Compared to 2015

Network Solutions revenues decreased in 2016 from 2015, primarily due to a decrease in unit sales volume of \$11.5 million. The decline in sales volume was driven by weakness in global oil and gas markets and commercial staffing shortages. Unfavorable currency translation resulted in a decrease in revenues of \$0.6 million.

Despite the decrease in revenues for the year, Network Solutions EBITDA increased by \$4.9 million as compared to 2015, due to improved productivity as a result of restructuring actions, as well as favorable product mix. Accordingly, Network Solutions EBITDA margins expanded to 23.2% in 2016, up 180 basis points from 2015.

## Discontinued Operations

In 2010, we completed the sale of Trapeze Networks, Inc. (Trapeze) for \$152.1 million and recognized a pre-tax gain of \$88.3 million (\$44.8 million after-tax). At the time the transaction closed, a portion of the sale price was placed in escrow as partial security for our indemnity obligations under the sale agreement. During 2015, we agreed to a final settlement with the buyer of Trapeze regarding the escrow, and collected \$3.5 million of the escrow receivable and recognized a \$0.2 million (\$0.1 million net of tax) loss from disposal of discontinued operations. Additionally, we recognized a \$0.2 million net loss from discontinued operations for income tax expense related to this disposed business in 2015.

## Liquidity and Capital Resources

Significant factors affecting our cash liquidity include (1) cash provided by operating activities, (2) disposals of businesses and tangible assets, (3) cash used for acquisitions, restructuring actions, capital expenditures, share repurchases, dividends, and senior subordinated note repurchases, (4) our available credit facilities and other borrowing arrangements, and (5) cash proceeds from equity offerings. We expect our operating activities to generate cash in 2018 and believe our sources of liquidity are sufficient to fund current working capital requirements, capital expenditures, contributions to our retirement plans, share repurchases, senior subordinated note repurchases, quarterly dividend payments, and our short-term operating strategies. However, we may require external financing were we to complete a significant acquisition. Our ability to continue to fund our future needs from business operations could be affected by many factors, including, but not limited to: economic conditions worldwide, customer demand, competitive market forces, customer acceptance of our product mix, and commodities pricing.

The following table is derived from our Consolidated Cash Flow Statements:

	Years Ended December 31, 2017 (In thousands)	2016
Net cash provided by (used for):		
Operating activities	\$ 255,300	\$ 314,794
Investing activities	(230,118 )	(73,257 )
Financing activities	(331,448 )	401,704
Effects of currency exchange rate changes on cash and cash equivalents	19,258	(11,876 )
Increase (decrease) in cash and cash equivalents	(287,008 )	631,365
Cash and cash equivalents, beginning of year	848,116	216,751

Cash and cash equivalents, end of year	\$ 561,108	\$ 848,116
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Net cash provided by operating activities totaled \$255.3 million for 2017 compared to \$314.8 million for 2016. This deterioration was primarily due to an unfavorable change in inventory of \$86.8 million. Approximately half of the unfavorable change in inventory was due to higher copper prices. Furthermore, safety stock inventory resulting from the closure of one of our plants as part of our industrial manufacturing footprint consolidation program also contributed to a temporary growth in inventory levels over the year ago period.

Net cash used for investing activities totaled \$230.1 million for 2017 compared to \$73.3 million for 2016. Investing activities for 2017 included payments, net of cash acquired, for the acquisition of Thinklogical of \$165.9 million; capital expenditures of \$64.3 million; and a \$1.0 million payment related to our 2015 acquisition of Tripwire that had previously been deferred. Investing activities for 2016 included capital expenditures of \$54.0 million and payments for acquisitions, net of cash acquired, of \$18.8 million.



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Net cash flows from financing activities was a \$331.4 million use of cash for 2017, compared to a \$401.7 million source of cash for 2016. Financing activities for 2017 included payments under borrowing arrangements of \$1,105.9 million, cash dividend payments of \$43.4 million, debt issuance costs of \$17.3 million, payments under our share repurchase program of \$25.0 million, net payments related to share based compensation activities of \$6.6 million, and borrowings under credit arrangements of \$866.7 million. Financing activities for 2016 included net proceeds from the issuance of preferred stock of \$501.5 million, borrowings of \$222.1 million to pay off the term loan, repayments of borrowings of \$294.4 million, cash dividend payments of \$16.1 million, net payments related to share-based compensation activities of \$7.5 million, and debt issuance cost payments of \$3.9 million.

Our cash and cash equivalents balance was \$561.1 million as of December 31, 2017. Of this amount, \$184.7 million was held outside of the U.S. in our foreign operations. Substantially all of the foreign cash and cash equivalents are readily convertible into U.S. dollars or other foreign currencies. The Tax Cuts and Jobs Act of 2017 included a one-time transition tax of unremitted foreign earnings. Accordingly, as of December 31, 2017, we recorded tax expense of \$29.1 million, most of which was non-cash, related to the transition tax on the one-time mandatory deemed repatriation of all our foreign earnings. See Note 16 Income Taxes in the accompanying notes to our consolidated financial statements.

Our outstanding debt obligations as of December 31, 2017 consisted of \$1.6 billion of senior subordinated notes. As of December 31, 2017, we had no borrowings outstanding on the Revolver, and our available borrowing capacity was \$348.6 million. Additional discussion regarding our various borrowing arrangements is included in Note 14 to the Consolidated Financial Statements.

Contractual obligations outstanding at December 31, 2017, have the following scheduled maturities:

	Total	Less than 1 Year	1-3 Years	4-5 Years	More than 5 Years
	(In thousands)				
Long-term debt payment obligations <sup>(1)(2)</sup>	1,584,232	\$—	\$—	\$—	\$1,584,232
Interest payments on long-term debt obligations	508,215	62,372	124,743	124,743	196,357
Operating lease obligations <sup>(3)</sup>	97,289	22,440	31,793	19,562	23,494
Purchase obligations <sup>(4)</sup>	28,921	28,921	—	—	—
Other commitments <sup>(5)</sup>	8,579	1,110	7,030	439	—
Pension and other postemployment obligations	60,599	6,224	12,525	11,820	30,030
Total	\$2,287,835	\$121,067	\$176,091	\$156,564	\$1,834,113

(1) As described in Note 14 to the Consolidated Financial Statements.

(2) Amounts do not include accrued and unpaid interest. Accrued and unpaid interest related to long-term debt obligations is reflected on a separate line in the table.

(3) As described in Note 23 to the Consolidated Financial Statements.

Includes agreements to purchase goods or services that are enforceable and legally binding on us and that specify all significant terms, including fixed or minimum quantities to be purchased; fixed, minimum, or variable price provisions; and the approximate timing of the transaction.

(5) Does not include accounts payable reflected in the financial statements. Includes obligations for uncertain tax positions (see Note 16 to the Consolidated Financial Statements).

Our commercial commitments expire or mature as follows:

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	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
	(In thousands)				
Standby financial letters of credit	\$7,470	\$7,431	\$ 39	\$ —	—
Bank guarantees	1,701	1,701	—	—	—
Surety bonds	2,362	2,362	—	—	—
Total	\$11,533	\$11,494	\$ 39	\$ —	—

Standby financial letters of credit, bank guarantees, and surety bonds are generally issued to secure obligations we have for a variety of commercial reasons such as workers compensation self-insurance programs in several states and the importation and exportation of product. We expect to replace most of these when they expire or mature.

**Off-Balance Sheet Arrangements**

We have no off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, results of operations, or cash flows that are or would be considered material to investors.

**Current-Year Adoption of Recent Accounting Pronouncements**

Discussion regarding our adoption of accounting pronouncements is included in Note 2 to the Consolidated Financial Statements.

**Critical Accounting Estimates**

Our consolidated financial statements are prepared in conformity with accounting principles generally accepted in the U.S. (GAAP). In connection with the preparation of our financial statements, we are required to make assumptions and estimates about future events, and apply judgments that affect the reported amounts of assets, liabilities, revenues, expenses, and the related disclosures. We base our assumptions, estimates, and judgments on historical experience, current trends, and other factors that management believes to be relevant at the time our consolidated financial statements are prepared. On a regular basis, we review the accounting policies, assumptions, estimates, and judgments to ensure that our financial statements are presented fairly and in accordance with GAAP. However, because future events and their effects cannot be determined with certainty, actual results could differ from our assumptions and estimates, and such differences could be material.

Our significant accounting policies are discussed in Note 2 of our Consolidated Financial Statements. We believe that the following accounting estimates are the most critical to aid in fully understanding and evaluating our reported financial results, and they require our most difficult, subjective, or complex judgments, resulting from the need to make estimates about the effect of matters that are inherently uncertain.

**Revenue Recognition**

We recognize revenue when all of the following circumstances are satisfied: (1) persuasive evidence of an arrangement exists, (2) price is fixed or determinable, (3) collectability is reasonably assured, and (4) delivery has occurred. Delivery typically occurs in the period in which the customer takes title and assumes the risks and rewards of ownership of the products specified in the customer's purchase order or sales agreement.

At the time of sale, we establish an estimated reserve for trade, promotion, and other special price reductions such as contract pricing, discounts to meet competitor pricing, and on-time payment discounts. We also reserve for, among other things, correction of billing errors, incorrect shipments, and settlement of customer disputes. Customers are allowed to return inventory if and when certain conditions regarding the functionality of the inventory and our approval of the return are met. Certain distribution customers are allowed to return inventory at original cost, in an amount not to exceed three percent of the prior year's purchases, in exchange for an order of equal or greater value. Until we can process these reductions, corrections, and returns (together, the Changes) through individual customer records, we estimate the amount of outstanding Changes and recognize them by reducing revenues and accounts receivable. We determine our estimate based on our historical Changes as a percentage of revenues and the average time period between the original sale and the issuance of the Changes. We also adjust inventory and cost of sales for the estimated level of returns.

We base these estimates on historical and anticipated sales demand, trends in product pricing, and historical and anticipated Changes patterns. We make revisions to these estimates in the period in which the facts that give rise to each revision become known. Future market conditions and product transitions might require us to take actions to

further reduce prices and increase customer return authorizations. We do not believe there is a reasonable likelihood that there will be a material change in the future estimates or

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assumptions we use to measure the Changes. However, if actual results are not consistent with our estimates or assumptions, we may be exposed to losses or gains that could be material. A 10% change in our sales reserve for such Changes as of December 31, 2017 would have affected net income by less than \$1 million in 2017.

At times, we enter into arrangements that involve the delivery of multiple elements. For these arrangements, when the elements can be separated, the revenue is allocated to each deliverable based on that element's relative selling price and recognized based on the period of delivery for each element. Generally, we determine relative selling price using vendor-specific objective evidence (VSOE).

We have certain products subject to the accounting guidance on software revenue recognition. For such products, software license revenue is recognized when persuasive evidence of an arrangement exists, delivery of the product has occurred, the fee is fixed or determinable, collection is probable and VSOE of the fair value of undelivered elements exists. As substantially all of the software licenses are sold in multiple-element arrangements that include either support or professional services, we use the residual method to determine the amount of software license revenue to be recognized. Under the residual method, consideration is allocated to undelivered elements based upon VSOE of the fair value of those elements, with the residual of the arrangement fee allocated to and recognized as software license revenue. We have established VSOE of the fair value of support, subscription-based software licenses, and professional services. Software license revenue is generally recognized upon delivery of the software if all revenue recognition criteria are met.

Revenue allocated to support services under our support contracts is typically paid in advance and recognized ratably over the term of the service. Revenue allocated to subscription-based software and remote ongoing operational services is also paid in advance and recognized ratably over the term of the service. Revenue allocated to professional services is recognized as the services are performed.

### Income Taxes

We recognize deferred tax assets resulting from tax credit carryforwards, net operating loss carryforwards, and deductible temporary differences between taxable income on our income tax returns and income before taxes under GAAP. Deferred tax assets generally represent future tax benefits to be received when these carryforwards can be applied against future taxable income or when expenses previously reported in our Consolidated Financial Statements become deductible for income tax purposes. A deferred tax asset valuation allowance is required when some portion or all of the deferred tax assets may not be realized. We are required to estimate taxable income in future years or develop tax strategies that would enable tax asset realization in each taxing jurisdiction and use judgment to determine whether to record a deferred tax asset valuation allowance for part or all of a deferred tax asset.

We consider the weight of all available evidence, both positive and negative, in assessing the realizability of the deferred tax assets associated with net operating losses. We consider the reversals of existing taxable temporary differences as well as projections of future taxable income. We consider the future reversals of existing taxable temporary differences to the extent they were of the same character as the temporary differences giving rise to the deferred tax assets. We also consider whether the future reversals of existing taxable temporary differences will occur in the same period and jurisdiction as the temporary differences giving rise to the deferred tax assets. The assumptions utilized to estimate our future taxable income are consistent with those assumptions utilized for purposes of testing goodwill for impairment, as well as with our budgeting and strategic planning processes.

Significant judgment is required in evaluating our uncertain tax positions. We establish accruals for uncertain tax positions when we believe that the full amount of the associated tax benefit may not be realized. In the future, if we prevail in matters for which accruals have been established previously or pay amounts in excess of reserves, there could be a material effect on our income tax provisions in the period in which such determination is made.

We have significant tax credit carryforwards in the U.S. for which we have recorded a partial valuation allowance as a result of the Tax Cuts and Jobs Act of 2017 (the "Act"). The utilization of these credits is dependent upon the recognition of both U.S. taxable income as well as income characterized as foreign source under the U.S. tax laws. We do not expect to generate enough foreign source income in the future to utilize all of these tax credits due to law

changes introduced by the Act. Nevertheless, in 2018 we expect to continue implementation of tax planning strategies that will help generate additional foreign source income in the carryforward period. In addition, we have significant research and development related tax credit carryforwards in Canada on which we have not recorded a valuation allowance. The utilization of these credits is dependent upon the recognition of Canadian taxable income, and we expect to generate enough taxable income in the future to utilize these tax credits.

On December 22, 2017, the “Tax Cuts and Jobs Act” (the “Act”) was signed into law, making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial tax

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system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. The Company has calculated its best estimate of the impact of the Act in its year end income tax provision in accordance with its understanding of the Act and guidance available as of the date of this filing and as a result has recorded \$28.4 million as an additional income tax expense in the fourth quarter of 2017, the period in which the legislation was enacted. This provisional income tax expense is comprised of a \$36.0 million tax benefit for the remeasurement of deferred tax assets and liabilities to the 21% rate at which they are expected to reverse, offset with a one-time tax expense on deemed repatriation of \$29.1 million and a valuation allowance of \$35.3 million recorded against foreign tax credit carryovers that we no longer expect to be able to realize based upon the new tax law. The Company continues to analyze its provisional estimate regarding the non-deductibility of certain covered employee compensation associated with amendments to IRC section 162(m). As of the date of this filing, the Company reasonably believes that the impact of these changes is immaterial.

On December 22, 2017, Staff Accounting Bulletin No. 118 (“SAB 118”) was issued to address the application of US GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Act. In accordance with SAB 118, the Company has determined that the \$36.0 million deferred tax benefit recorded in connection with the remeasurement of certain deferred tax assets and liabilities, the \$29.1 million of current tax expense recorded in connection with the transition tax on the mandatory deemed repatriation of foreign earnings, the \$35.3 million deferred tax expense recorded in connection with a valuation allowance on foreign tax credits, and the \$0.0 million deferred tax expense recorded in connection with covered employee compensation were provisional amounts and reasonable estimates at December 31, 2017. Additional work is necessary to do a more detailed analysis of all provisional amounts associated with the Act referenced above as a result of pending issuance of Notices and Regulations related to the Act, ongoing legal analysis of compensation plans and finalization of foreign earnings and profits for 2017. Any subsequent adjustment to these amounts will be recorded to tax expense in the quarter of 2018 when the analysis is complete.

See Note 16 Income Taxes to the consolidated financial statements for further information regarding income taxes.

**Goodwill and Indefinite-Lived Intangible Assets**

We test our goodwill and other indefinite-lived intangible assets not subject to amortization for impairment on an annual basis during the fourth quarter or when indicators of impairment exist. We base our estimates on assumptions we believe to be reasonable, but which are not predictable with precision and therefore are inherently uncertain.

Actual future results could differ from these estimates.

We test goodwill annually for impairment at the reporting unit level. A reporting unit is an operating segment, or a business unit one level below an operating segment if discrete financial information for that business is prepared and regularly reviewed by segment management. However, components within an operating segment are aggregated as a single reporting unit if they have similar economic characteristics. We determined that each of our reportable segments (Broadcast, Enterprise, Industrial, and Network Solutions) represents an operating segment. Within those operating segments, we have identified reporting units based on whether there is discrete financial information prepared that is regularly reviewed by segment management. As a result of this evaluation, we have identified three reporting units within Broadcast, two reporting units within Enterprise, four reporting units within Industrial, and three reporting units within Network Solutions for purposes of goodwill impairment testing.

The accounting guidance related to goodwill impairment testing allows for the performance of an optional qualitative assessment of whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Such an evaluation is made based on the weight of all available evidence and the significance of all identified events and circumstances that may influence the fair value of a reporting unit. If it is more likely than not that the fair value is less than the carrying value, then a quantitative assessment is required for the reporting unit, as described in the paragraph below. In 2017, we performed a qualitative assessment for seven of our reporting units, which collectively represented approximately \$547 million of our consolidated goodwill balance. For those reporting units for which we performed a qualitative assessment, we determined that it was more likely than not that the fair value was greater than

the carrying value, and therefore, we did not perform the calculation of fair value for these reporting units as described in the paragraph below.

When we evaluate goodwill for impairment using a quantitative assessment, we compare the fair value of each reporting unit to its carrying value. We determine the fair value using an income approach. Under the income approach, we calculate the fair value of a reporting unit based on the present value of estimated future cash flows using growth rates and discount rates that are consistent with current market conditions in our industry. If the fair value of the reporting unit exceeds the carrying value of the net assets including goodwill assigned to that unit, goodwill is not impaired. If the carrying value of the reporting unit's net assets including goodwill exceeds the fair value of the reporting unit, then we record an impairment charge based on that difference. In addition to the income approach, we calculate the fair value of our reporting units under a market approach. The market approach measures

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the fair value of a reporting unit through analysis of financial multiples of comparable businesses. Consideration is given to the financial conditions and operating performance of the reporting unit being valued relative to those publicly-traded companies operating in the same or similar lines of business.

We determined that none of our goodwill was impaired during 2017. The fair values of our five reporting units tested under a quantitative approach were in excess of the carrying values as of our most recent impairment testing date. The assumptions used to estimate fair values were based on the past performance of the reporting unit as well as the projections incorporated in our strategic plan. Significant assumptions included sales growth, profitability, and related cash flows, along with cash flows associated with taxes and capital spending. The discount rate used to estimate fair value was risk adjusted in consideration of the economic conditions in effect at the time of the impairment test. We also considered assumptions that market participants may use. In our quantitative assessments, the discount rates ranged from 9.7% to 13.8% and the long-term growth rate was 3% for all five reporting units. By their nature, these assumptions involve risks and uncertainties, with the primary factor that could have an adverse effect being our assumptions relating to growing revenues consistent with our strategic plan.

We test our indefinite-lived intangible assets, which consist primarily of trademarks, for impairment on an annual basis during the fourth quarter. The accounting guidance related to impairment testing for such intangible assets allows for the performance of an optional qualitative assessment, similar to that described above for goodwill. We did not perform any qualitative assessments as part of our indefinite-lived intangible asset impairment testing for 2017. Rather, we performed a quantitative assessment for each of our indefinite-lived trademarks in 2017. Under the quantitative assessments, we determined the fair value of each trademark using a relief from royalty methodology and compared the fair value to the carrying value. We determined that none of our trademarks were impaired during 2017. Significant assumptions to determine fair value included sales growth, royalty rates, and discount rates.

We do not believe there is a reasonable likelihood that there will be a material change in the future estimates or assumptions we used to test for impairment losses on goodwill and other intangible assets. However, if actual results are significantly different from our estimates or assumptions, we may have to recognize an impairment charge that could be material.

#### Definite-lived Intangible Assets

The carrying value of our definite-lived intangible assets as of December 31, 2017 was \$450.7 million. Customer relationships and developed technology are the most significant definite-lived intangible assets recorded, with carrying values of \$222.4 million and \$180.3 million, respectively, and weighted average amortization periods of 18.5 years and 6.5 years, respectively, as of December 31, 2017. We also have recorded definite-lived intangible assets for certain trademarks, certain in-service research and development projects, and backlog. The assignment of useful lives and the determination of the method of amortization for our definite-lived intangible assets require significant judgments and the use of estimates.

We record amortization of the definite-lived intangible assets over their estimated useful lives. If an intangible asset has a finite useful life, but the precise length of that life is not known, the asset is amortized over the best estimate of its useful life. We estimate the useful life based on all relevant information available to us regarding the assets, including information utilized to determine the value of the definite-lived intangible asset. For example, for our customer relationships, we consider historical and projected sales data and related customer attrition rates in order to estimate a useful life. For our developed technology, we give consideration to the product life cycle in order to estimate a useful life.

We determine the amortization method for our definite-lived intangible assets based on the pattern in which the economic benefits of the intangible asset are consumed. In the event we cannot reliably determine that pattern, we utilize a straight-line amortization method. In order to determine the amortization method, we evaluate all relevant information available to us regarding the assets, including information utilized to determine the value of the definite-lived intangible asset. For example, for customer relationships, we consider historical and projected sales data, customer attrition rates, and our historical experience with key customers of past acquisitions to determine if a pattern of consumption can be derived. If the data examined does not provide a reliably determinable pattern of consumption, then we utilize a straight-line amortization method.



The determinations of useful lives and amortization methods require a significant use of judgment by management. We believe the useful lives assigned and the amortization methods applied are reasonable based on the data available to us. For our existing and prior definite-lived intangible assets, we have not experienced significant differences between our estimates and actual results. We do not believe there is a reasonable likelihood that there will be a material change in the future of the estimates or assumptions we used to develop the useful lives and amortization methods. However, if actual results are significantly different from our estimates or assumptions, we may have to recognize an impairment charge, shorten the useful life assigned to one or more of our definite-lived intangible assets, or change the amortization method assigned to one or more of our definite-lived intangible assets, which could have a material impact on our results. This could occur, for example, if we were to experience significant customer

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losses or attrition in excess of our estimates or if our product lives were significantly shortened due to technological developments or obsolescence.

As a sensitivity measure, the effect of a 10% change in the estimated useful life of our definite-lived intangible assets for customer relationships and developed technology would have resulted in a change in 2017 amortization expense of approximately \$2.1 million and \$10.0 million, respectively.

In addition, the testing of definite-lived assets for impairment also requires significant use of judgment and assumptions, particularly as it relates to the identification of asset groups and the determination of fair market value. We test our definite-lived intangible assets for impairment when indicators of impairment exist. For purposes of impairment testing of long-lived assets, we have identified asset groups at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. Generally, our asset groups are based on an individual plant or operating facility level. In some circumstances, however, a combination of plants or operating facilities may be considered the asset group due to interdependence of operational activities and cash flows.

### Pension and Other Postretirement Benefits

Our pension and other postretirement benefit costs and obligations are dependent on the various actuarial assumptions used in calculating such amounts. These assumptions relate to discount rates, salary growth, long-term return on plan assets, health care cost trend rates, mortality tables, and other factors. We base the discount rate assumptions on current investment yields on high-quality corporate long-term bonds. The salary growth assumptions reflect our long-term actual experience and future or near-term outlook. Long-term return on plan assets is determined based on historical portfolio results and management's expectation of the future economic environment. Our health care cost trend assumptions are developed based on historical cost data, the near-term outlook, and an assessment of likely long-term trends. Our key assumptions are described in further detail in Note 17 to the Consolidated Financial Statements. Actual results that differ from our assumptions are accumulated and, if in excess of the lesser of 10% of the projected benefit obligation or the fair market value of plan assets, amortized over the estimated future working life of the plan participants.

As a sensitivity measure, the effect of a 50 basis point decline in the assumed discount rate would have resulted in a \$0.9 million and \$19.0 million increase in the 2017 net periodic benefit cost and the projected benefit obligations as of December 31, 2017, respectively. A 50 basis point decline in the expected return on plan assets would have resulted in an increase in 2017 net periodic benefit cost of approximately \$0.9 million.

Conversely, the effect of a 50 basis point rise in the assumed discount rate would have resulted in a \$0.9 million and \$17.0 million decrease in the 2017 net periodic benefit cost and the projected benefit obligations as of December 31, 2017, respectively. A 50 basis point rise in the expected return on plan assets would have resulted in a decrease in 2017 net periodic benefit cost of approximately \$0.9 million.

### Business Combination Accounting

We allocate the purchase price of an acquired business to its identifiable assets and liabilities based on estimated fair values. The excess of the purchase price over the amount allocated to the assets and liabilities, if any, is recorded to goodwill. We use all available information to estimate fair values. We typically engage third party valuation specialists to assist in the fair value determination of inventories, tangible long-lived assets, and intangible assets other than goodwill. The carrying values of acquired receivables and accounts payable have historically approximated their fair values as of the business combination date. As necessary, we may engage third party specialists to assist in the estimation of fair value for certain liabilities. We adjust the preliminary purchase price allocation, as necessary, typically up to one year after the acquisition closing date as we obtain more information regarding asset valuations and liabilities assumed.

Our purchase price allocation methodology contains uncertainties because it requires management to make assumptions and to apply judgment to estimate the fair value of acquired assets and liabilities. Management estimates the fair value of assets and liabilities based upon quoted market prices, the carrying value of the acquired assets and widely accepted valuation techniques, including discounted cash flows and market multiple analyses. Unanticipated events or circumstances may occur which could affect the accuracy of our fair value estimates, including assumptions

regarding industry economic factors and business strategies.

If actual results are materially different than the assumptions we used to determine fair value of the assets and liabilities acquired through a business combination, it is possible that adjustments to the carrying values of such assets and liabilities will have an impact on our net earnings.

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See Note 3 to the Consolidated Financial Statements for the acquisition-related information associated with significant acquisitions completed in the last three fiscal years.

### Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risks relating to our operations result primarily from currency exchange rates, certain commodity prices, interest rates, and credit extended to customers. Each of these risks is discussed below.

#### Currency Exchange Rate Risk

We are exposed to foreign currency risks that arise from normal business operations. These risks include the translation of local currency balances of foreign subsidiaries and transactions denominated in currencies other than a location's functional currency.

Our investments in certain foreign subsidiaries are recorded in currencies other than the U.S. dollar. As these foreign currency denominated investments are translated at the end of each period during consolidation using period-end exchange rates, fluctuations of exchange rates between the foreign currency and the U.S. dollar increase or decrease the value of those investments. These fluctuations and the results of operations for foreign subsidiaries, where the functional currency is not the U.S. dollar, are translated into U.S. dollars using the average exchange rates during the year, while the assets and liabilities are translated using period end exchange rates. The assets and liabilities-related translation adjustments are recorded as a separate component of accumulated other comprehensive income (loss) in our Consolidated Balance Sheets. We generally view our investments in international subsidiaries with functional currencies other than the U.S. dollar as long-term. As a result, we do not generally use derivatives to manage these net investments. However, we designated euro debt issued in 2017 and 2016 by Belden Inc., a USD functional currency ledger, as a net investment hedge of certain international subsidiaries. See Note 15 for further discussion.

Transactions denominated in currencies other than a location's functional currency may produce receivables or payables that are fixed in terms of the amount of foreign currency that will be received or paid. A change in exchange rates between the functional currency and the currency in which a transaction is denominated increases or decreases the expected amount of functional currency cash flows upon settlement of the transaction. That increase or decrease in expected functional currency cash flows is a foreign exchange transaction gain or loss that is included in our operating income in the Consolidated Statements of Operations. In 2017, we recorded approximately \$2.0 million of net foreign currency transaction gains.

Generally, the currency in which we sell our products is the same as the currency in which we incur the costs to manufacture our products, resulting in a natural hedge. Our currency exchange rate management strategy primarily involves the use of natural techniques, where possible, such as the offsetting or netting of like-currency cash flows. However, we re-evaluate our strategy as the foreign currency environment changes, and it is possible that we could utilize derivative financial instruments to manage this risk in the future. We did not have any foreign currency derivatives outstanding as of December 31, 2017.

Our exposure to currency rate fluctuations primarily relates to exchange rate movements between the U.S. dollar and the euro, Canadian dollar, Hong Kong dollar, Chinese yuan, Japanese yen, Mexican peso, Australian dollar, British pound, and Brazilian real.

#### Commodity Price Risk

Certain raw materials used by us are subject to price volatility caused by supply conditions, political and economic variables, and other unpredictable factors. The primary purpose of our commodity price management activities is to manage the volatility associated with purchases of commodities in the normal course of business. We do not speculate on commodity prices.

We are exposed to price risk related to our purchase of copper used in our products, although we are generally able to raise selling prices to customers to cover the increase in copper costs. Our copper price management strategy involves the use of natural techniques, where possible, such as purchasing copper for future delivery at fixed prices. We do not generally use commodity price derivatives and did not have any outstanding at December 31, 2017 or 2016.

The following table presents unconditional commodity purchase obligations outstanding as of December 31, 2017.

The unconditional purchase obligations will settle during 2018.



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	Purchase Amount	Fair Value
	(In thousands, except average price)	
Unconditional copper purchase obligations:		
Commitment volume in pounds	2,280	
Weighted average price per pound	\$ 3.06	
Commitment amounts	\$ 6,971	\$ 7,478

We are also exposed to price risk related to our purchase of selected commodities derived from petrochemical feedstocks used in our products. We generally purchase these commodities based upon market prices established with the vendors as part of the purchase process. Pricing of these commodities is volatile as they tend to fluctuate with the price of oil. Historically, we have not used commodity financial instruments to hedge prices for commodities derived from petrochemical feedstocks.

**Interest Rate Risk**

We have occasionally managed our debt portfolio by using interest rate derivative instruments, such as swap agreements, to achieve an overall desired position of fixed and floating rates. We were not a party to any interest rate derivative instruments as of or for the years ended December 31, 2017 or 2016.

The following table provides information about our financial instruments that are sensitive to changes in interest rates. The table presents principal amounts by expected maturity dates and fair values as of December 31, 2017.

	Principal Amount by Expected Maturity		Fair Value
	2018 Hereafter	Total	
	(In thousands, except interest rates)		
€450.0 million fixed-rate senior subordinated notes due 2027	\$-540,810	\$540,810	\$544,704
Average interest rate	3.375 %		
€200.0 million fixed-rate senior subordinated notes due 2026	\$-240,360	\$240,360	\$257,536
Average interest rate	4.125 %		
€300.0 million fixed-rate senior subordinated notes due 2025	\$-360,540	\$360,540	\$361,081
Average interest rate	2.875 %		
\$200.0 million fixed-rate senior subordinated notes due 2024	\$-200,000	\$200,000	\$206,000
Average interest rate	5.25 %		
€200.0 million fixed-rate senior subordinated notes due 2023	\$-242,522	\$242,522	\$249,997
Average interest rate	5.50 %		
Total		\$1,584,232	\$1,619,318

**Concentrations of Credit Risk**

Financial instruments that potentially subject us to significant concentrations of credit risk consist of cash and cash equivalents and accounts receivable. We are exposed to credit losses in the event of nonperformance by counterparties to these financial instruments. We place cash and cash equivalents with various high-quality financial institutions throughout the world, and exposure is limited at any one financial institution. Although we do not obtain collateral or other security to support these financial instruments, we evaluate the credit standing of the counterparty financial institutions. As of December 31, 2017, we had \$38.2 million in accounts receivable outstanding from Anixter International Inc. This represented approximately 8% of our total accounts receivable outstanding at December 31, 2017. Anixter generally pays all outstanding receivables within thirty to sixty days of invoice receipt.

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Item 8. Financial Statements and Supplementary Data  
Report of Independent Registered Public Accounting Firm  
The Board of Directors and Stockholders  
Belden Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Belden Inc. (the Company) as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and the financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "financial statements"). In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2017 and 2016, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission 2013 framework and our report dated February 13, 2018 expressed an adverse opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1993.

St. Louis, Missouri

February 13, 2018

Table of ContentsBelden Inc.  
Consolidated Balance Sheets

	December 31,	
	2017	2016
	(In thousands, except par value)	
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 561,108	\$ 848,116
Receivables, net	473,570	388,059
Inventories, net	297,226	190,408
Other current assets	40,167	29,176
Assets held for sale	—	23,193
Total current assets	1,372,071	1,478,952
Property, plant and equipment, less accumulated depreciation	337,322	309,291
Goodwill	1,478,257	1,385,995
Intangible assets, less accumulated amortization	545,207	560,082
Deferred income taxes	42,549	33,706
Other long-lived assets	65,207	38,777
	\$ 3,840,613	\$ 3,806,803
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 376,277	\$ 258,203
Accrued liabilities	302,651	310,340
Liabilities held for sale	—	1,736
Total current liabilities	678,928	570,279
Long-term debt	1,560,748	1,620,161
Postretirement benefits	102,085	104,050
Deferred income taxes	27,713	14,276
Other long-term liabilities	36,273	36,720
Stockholders' equity:		
Preferred stock, par value \$0.01 per share— 2,000 shares authorized; 52 shares outstanding	1	1
Common stock, par value \$0.01 per share— 200,000 shares authorized; 50,335 shares issued; 42,019 and 42,180 shares outstanding at 2017 and 2016, respectively	503	503
Additional paid-in capital	1,123,832	1,116,090
Retained earnings	833,610	783,812
Accumulated other comprehensive loss	(98,026	) (39,067
Treasury stock, at cost— 8,316 and 8,155 shares at 2017 and 2016, respectively	(425,685	) (401,026
Total Belden stockholders' equity	1,434,235	1,460,313
Noncontrolling interest	631	1,004
Total stockholders' equity	1,434,866	1,461,317
	\$ 3,840,613	\$ 3,806,803

The accompanying notes are an integral part of these Consolidated Financial Statements



Table of ContentsBelden Inc.  
Consolidated Statements of Operations

	Years Ended December 31,		
	2017	2016	2015
	(In thousands, except per share amounts)		
Revenues	\$2,388,643	\$2,356,672	\$2,309,222
Cost of sales	(1,454,604 )	(1,375,678 )	(1,391,049 )
Gross profit	934,039	980,994	918,173
Selling, general and administrative expenses	(461,022 )	(494,224 )	(525,518 )
Research and development	(134,330 )	(140,601 )	(148,311 )
Amortization of intangibles	(103,997 )	(98,385 )	(103,791 )
Impairment of assets held for sale	—	(23,931 )	—
Operating income	234,690	223,853	140,553
Interest expense, net	(82,901 )	(95,050 )	(100,613 )
Loss on debt extinguishment	(52,441 )	(2,342 )	—
Income from continuing operations before taxes	99,348	126,461	39,940
Income tax benefit (expense)	(6,495 )	1,185	26,568
Income from continuing operations	92,853	127,646	66,508
Loss from discontinued operations, net of tax	—	—	(242 )
Loss from disposal of discontinued operations, net of tax	—	—	(86 )
Net income	92,853	127,646	66,180
Less: Net loss attributable to noncontrolling interest	(357 )	(357 )	(24 )
Net income attributable to Belden	93,210	128,003	66,204
Less: Preferred stock dividends	34,931	15,428	—
Net income attributable to Belden common stockholders	\$58,279	\$112,575	\$66,204
Weighted average number of common shares and equivalents:			
Basic	42,220	42,093	42,390
Diluted	42,643	42,557	42,953
Basic income (loss) per share attributable to Belden common stockholders:			
Continuing operations	\$1.38	\$2.67	\$1.57
Discontinued operations	—	—	(0.01 )
Net income	\$1.38	\$2.67	\$1.56
Diluted income (loss) per share attributable to Belden common stockholders:			
Continuing operations	\$1.37	\$2.65	\$1.55
Discontinued operations	—	—	(0.01 )
Net income	\$1.37	\$2.65	\$1.54

The accompanying notes are an integral part of these Consolidated Financial Statements

Table of ContentsBelden Inc.  
Consolidated Statements of Comprehensive Income

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Net income	\$92,853	\$127,646	\$66,180
Foreign currency translation, net of tax of \$1.3 million, \$1.2 million, and \$1.3 million, respectively	(65,046 )	18,687	(20,842 )
Adjustments to pension and postretirement liability, net of tax of \$2.2 million, \$1.9 million, and \$3.1 million, respectively	6,071	1,170	7,864
Other comprehensive income (loss), net of tax	(58,975 )	19,857	(12,978 )
Comprehensive income	33,878	147,503	53,202
Less: Comprehensive loss attributable to noncontrolling interest	(373 )	(420 )	(46 )
Comprehensive income attributable to Belden	\$34,251	\$147,923	\$53,248

The accompanying notes are an integral part of these Consolidated Financial Statements

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Belden Inc.

## Consolidated Cash Flow Statements

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Cash flows from operating activities:			
Net income	\$92,853	\$127,646	\$66,180
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	149,650	145,593	150,342
Impairment of assets held for sale	—	23,931	—
Share-based compensation	14,647	18,178	17,745
Loss on debt extinguishment	52,441	2,342	—
Deferred income tax benefit	(24,098 )	(30,034 )	(45,674 )
Changes in operating assets and liabilities, net of the effects of currency exchange rate changes and acquired businesses:			
Receivables	(24,931 )	(10,115 )	6,066
Inventories	(84,088 )	2,677	19,204
Accounts payable	100,752	39,298	(38,907 )
Accrued liabilities	(25,076 )	(13,181 )	59,214
Accrued taxes	5,001	11,722	11,981
Other assets	(13,255 )	760	(4,840 )
Other liabilities	11,404	(4,023 )	149
Net cash provided by operating activities	255,300	314,794	241,460
Cash flows from investing activities:			
Cash used to acquire businesses, net of cash acquired	(166,896 )	(18,848 )	(695,345 )
Capital expenditures	(64,261 )	(53,974 )	(54,969 )
Other	—	(827 )	—
Proceeds from disposal of business	—	—	3,527
Proceeds from disposal of tangible assets	1,039	392	533
Net cash used for investing activities	(230,118 )	(73,257 )	(746,254 )
Cash flows from financing activities:			
Payments under borrowing arrangements	(1,105,892 )	(294,375 )	(152,500 )
Cash dividends paid	(43,376 )	(16,079 )	(8,395 )
Payments under share repurchase program	(25,000 )	—	(39,053 )
Debt issuance costs paid	(17,316 )	(3,910 )	(898 )
Withholding tax payments for share based payment awards, net of proceeds from the exercise of stock options	(6,564 )	(7,480 )	(11,693 )
Borrowings under credit arrangements	866,700	222,050	200,000
Proceeds from the issuance of preferred stock, net	—	501,498	—
Contribution from noncontrolling interest	—	—	1,470
Net cash provided by (used for) financing activities	(331,448 )	401,704	(11,069 )
Effect of foreign currency exchange rate changes on cash and cash equivalents	19,258	(11,876 )	(8,548 )
Increase (decrease) in cash and cash equivalents	(287,008 )	631,365	(524,411 )
Cash and cash equivalents, beginning of period	848,116	216,751	741,162
Cash and cash equivalents, end of period	\$561,108	\$848,116	\$216,751
The accompanying notes are an integral part of these Consolidated Financial Statements			

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Belden Inc.

## Consolidated Stockholders' Equity Statements

	Belden Inc. Stockholders					Retained Earnings	Treasury Stock		Accumulated Other Comprehensive Income (Loss)	Non-controlling Interest	Total
	Mandatory Conversion Preferred Stock Shares	Common Stock Shares	Additional Paid-In Capital Amount	Shares	Amount		Shares	Amount			
Balance at December 31, 2014	—	\$—50,335	\$503	\$595,389	\$621,896	(7,871)	\$(364,571)	\$(46,031)	\$—	\$807,186	
Contribution from noncontrolling interest	—	—	—	—	—	—	—	—	1,470	1,470	
Net income	—	—	—	—	66,204	—	—	—	(24)	66,180	
Foreign currency translation, net of \$1.3 million tax	—	—	—	—	—	—	—	(20,820)	(22)	(20,842)	
Adjustments to pension and postretirement liability, net of \$3.1 million tax	—	—	—	—	—	—	—	7,864	—	7,864	
Other comprehensive loss, net of tax	—	—	—	—	—	—	—	—	—	(12,978)	
Exercise of stock options, net of tax withholding forfeitures	—	—	—	(6,070)	—	100	(96)	—	—	(6,166)	
Conversion of restricted stock units into common stock, net of tax withholding forfeitures	—	—	—	(6,454)	—	115	927	—	—	(5,527)	
Share repurchase program	—	—	—	—	—	(698)	(39,053)	—	—	(39,053)	
Share-based compensation related items	—	—	—	22,795	—	—	—	—	—	22,795	
	—	—	—	—	(8,384)	—	—	—	—	(8,384)	

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Common stock dividends (\$0.20 per share)												
Balance at December 31, 2015	—	\$—	50,335	\$503	\$605,660	\$679,716	(8,354)	\$(402,793)	\$(58,987)	\$1,424	\$825,523	
Net income	—	—	—	—	—	128,003	—	—	—	(357)	)	127,646
Foreign currency translation, net of \$1.2 million tax	—	—	—	—	—	—	—	—	18,750	(63)	)	18,687
Adjustments to pension and postretirement liability, net of \$1.9 million tax	—	—	—	—	—	—	—	—	1,170	—		1,170
Other comprehensive income, net of tax												19,857
Preferred stock issuance, net	52	1	—	—	501,497	—	—	—	—	—		501,498
Exercise of stock options, net of tax withholding forfeitures	—	—	—	—	(4,205)	)	—	76	117	—	—	(4,088)
Conversion of restricted stock units into common stock, net of tax withholding forfeitures	—	—	—	—	(5,040)	)	—	123	1,650	—	—	(3,390)
Share-based compensation related items	—	—	—	—	18,178	—	—	—	—	—		18,178
Preferred stock dividends	—	—	—	—	—	(15,428)	)	—	—	—		(15,428)
Common stock dividends (\$0.20 per share)	—	—	—	—	—	(8,479)	)	—	—	—		(8,479)
Balance at December 31, 2016	52	\$1	50,335	\$503	\$1,116,090	\$783,812	(8,155)	\$(401,026)	\$(39,067)	\$1,004	\$1,461,317	
Net income	—	—	—	—	—	93,210	—	—	—	(357)	)	92,853
Foreign currency	—	—	—	—	—	—	—	—	(65,030)	(16)	)	(65,046)

translation, net of \$1.3 million tax														
Adjustments to pension and postretirement liability, net of \$2.2 million tax	—	—	—	—	—	—	—	—	6,071	—	6,071			
Other comprehensive loss, net of tax											(58,975	)		
Exercise of stock options, net of tax withholding forfeitures	—	—	—	—	(2,635	)	—	55	(203	)	—	(2,838	)	
Conversion of restricted stock units into common stock, net of tax withholding forfeitures	—	—	—	—	(4,270	)	—	97	544	—	—	(3,726	)	
Share repurchase program	—	—	—	—	—	—	—	(313	)	(25,000	)	—	(25,000	)
Share-based compensation	—	—	—	—	14,647	—	—	—	—	—	—	14,647		
Preferred stock dividends	—	—	—	—	—	(34,931	)	—	—	—	—	(34,931	)	
Common stock dividends (\$0.20 per share)	—	—	—	—	—	(8,481	)	—	—	—	—	(8,481	)	
Balance at December 31, 2017	52	\$ 1	50,335	\$503	\$1,123,832	\$833,610	(8,316)	\$(425,685)	\$(98,026)	\$631	\$1,434,866			

The accompanying notes are an integral part of these Consolidated Financial Statements

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### Notes to Consolidated Financial Statements

#### Note 1: Basis of Presentation

##### Business Description

Belden Inc. (the Company, us, we, or our) is an innovative signal transmission solutions company built around four global business platforms – Broadcast Solutions, Enterprise Solutions, Industrial Solutions, and Network Solutions. Our comprehensive portfolio of signal transmission solutions provides industry leading secure and reliable transmission of data, sound, and video for mission critical applications. We sell our products to distributors, end-users, installers, and directly to original equipment manufacturers (OEMs).

##### Consolidation

The accompanying Consolidated Financial Statements include Belden Inc. and all of its subsidiaries, including variable interest entities for which we are the primary beneficiary. We eliminate all significant affiliate accounts and transactions in consolidation.

##### Foreign Currency

For international operations with functional currencies other than the United States (U.S.) dollar, we translate assets and liabilities at current exchange rates; we translate income and expenses using average exchange rates. We report the resulting translation adjustments, as well as gains and losses from certain affiliate transactions, in accumulated other comprehensive income (loss), a separate component of stockholders' equity. We include exchange gains and losses on transactions in operating income.

We determine the functional currency of our foreign subsidiaries based upon the currency of the primary economic environment in which each subsidiary operates. Typically, that is determined by the currency in which the subsidiary primarily generates and expends cash. We have concluded that the local currency is the functional currency for all of our material subsidiaries.

##### Reporting Periods

Our fiscal year and fiscal fourth quarter both end on December 31. Our fiscal first quarter ends on the Sunday falling closest to 91 days after December 31. Our fiscal second and third quarters each have 91 days.

##### Use of Estimates in the Preparation of the Financial Statements

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, and operating results and the disclosure of contingencies. Actual results could differ from those estimates. We make significant estimates with respect to the collectability and valuation of receivables, the valuation of inventory, the realization of deferred tax assets, the valuation of goodwill and indefinite-lived intangible assets, the valuation of contingent liabilities, the calculation of share-based compensation, the calculation of pension and other postretirement benefits expense, and the valuation of acquired businesses.

##### Reclassifications

We have made certain, insignificant reclassifications to the 2016 and 2015 Consolidated Financial Statements with no impact to reported net income in order to conform to the 2017 presentation.

#### Note 2: Summary of Significant Accounting Policies

##### Fair Value Measurement

Accounting guidance for fair value measurements specifies a hierarchy of valuation techniques based upon whether the inputs to those valuation techniques reflect assumptions other market participants would use based upon market data obtained from independent sources or reflect our own assumptions of market participant valuation. The hierarchy is broken down into three levels based on the reliability of the inputs as follows:

Level 1 – Quoted prices in active markets that are unadjusted and accessible at the measurement date for identical, unrestricted assets or liabilities;

Level 2 – Quoted prices for identical assets and liabilities in markets that are not active, quoted prices for similar assets and liabilities in active markets, or financial instruments for which significant inputs are observable, either directly or indirectly; and





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Level 3 – Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

As of December 31, 2017, 2016, and 2015 we utilized Level 1 inputs to determine the fair value of cash equivalents, and Level 3 inputs to determine the fair value of net assets acquired in business combinations (see Note 3) and for our annual impairment testing (see Note 11). We did not have any transfers between Level 1 and Level 2 fair value measurements during 2017.

### Cash and Cash Equivalents

We classify cash on hand and deposits in banks, including commercial paper, money market accounts, and other investments with an original maturity of three months or less, that we hold from time to time, as cash and cash equivalents. We periodically have cash equivalents consisting of short-term money market funds and other investments. As of December 31, 2017 and 2016, we did not have any such cash equivalents on hand. The primary objective of our investment activities is to preserve our capital for the purpose of funding operations. We do not enter into investments for trading or speculative purposes.

### Accounts Receivable

We classify amounts owed to us and due within twelve months, arising from the sale of goods or services in the normal course of business, as current receivables. We classify receivables due after twelve months as other long-lived assets.

At the time of sale, we establish an estimated reserve for trade, promotion, and other special price reductions such as contract pricing, discounts to meet competitor pricing, and on-time payment discounts. We also adjust receivable balances for, among other things, correction of billing errors, incorrect shipments, and settlement of customer disputes. Customers are allowed to return inventory if and when certain conditions regarding the physical state of the inventory and our approval of the return are met. Certain distribution customers are allowed to return inventory at original cost, in an amount not to exceed three percent of the prior year's purchases, in exchange for an order of equal or greater value. Until we can process these reductions, corrections, and returns (together, the Changes) through individual customer records, we estimate the amount of outstanding Changes and recognize them by reducing revenues and accounts receivable. We also adjust inventory and cost of sales for the estimated level of returns. We base these estimates on historical and anticipated sales demand, trends in product pricing, and historical and anticipated Changes patterns. We make revisions to these estimates in the period in which the facts that give rise to each revision become known. Future market conditions might require us to take actions to further reduce prices and increase customer return authorizations. Unprocessed Changes recognized against our gross accounts receivable balance at December 31, 2017 and 2016 totaled \$35.7 million and \$23.3 million, respectively.

We evaluate the collectability of accounts receivable based on the specific identification method. A considerable amount of judgment is required in assessing the realizability of accounts receivable, including the current creditworthiness of each customer and related aging of the past due balances. We perform ongoing credit evaluations of our customers' financial condition. Through these evaluations, we may become aware of a situation where a customer may not be able to meet its financial obligations due to deterioration of its financial viability, credit ratings, or bankruptcy. We record a specific reserve for bad debts against amounts due to reduce the receivable to its estimated collectible balance. We recognized bad debt expense, net of recoveries, of \$0.0 million, \$1.5 million, and \$(1.8) million in 2017, 2016, and 2015, respectively. In 2015, we recovered approximately \$2.7 million of accounts receivable from one significant customer. The allowance for doubtful accounts at December 31, 2017 and 2016 totaled \$7.8 million and \$8.1 million, respectively.

### Inventories and Related Reserves

Inventories are stated at the lower of cost or market. We determine the cost of all raw materials, work-in-process, and finished goods inventories by the first in, first out method. Cost components of inventories include direct labor, applicable production overhead, and amounts paid to suppliers of materials and products as well as freight costs and, when applicable, duty costs to import the materials and products.

We evaluate the realizability of our inventory on a product-by-product basis in light of historical and anticipated sales demand, technological changes, product life cycle, component cost trends, product pricing, and inventory condition.

In circumstances where inventory levels are in excess of anticipated market demand, where inventory is deemed technologically obsolete or not saleable due to condition, or where inventory cost exceeds net realizable value, we record a charge to cost of sales and reduce the inventory to its net realizable value. The allowances for excess and obsolete inventories at December 31, 2017 and 2016 totaled \$25.3 million and \$24.6 million, respectively.

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### Property, Plant and Equipment

We record property, plant and equipment at cost. We calculate depreciation on a straight-line basis over the estimated useful lives of the related assets ranging from 10 to 40 years for buildings, 5 to 12 years for machinery and equipment, and 5 to 10 years for computer equipment and software. Construction in process reflects amounts incurred for the configuration and build-out of property, plant and equipment and for property, plant and equipment not yet placed into service. We charge maintenance and repairs—both planned major activities and less-costly, ongoing activities—to expense as incurred. We capitalize interest costs associated with the construction of capital assets and amortize the costs over the assets' useful lives. Depreciation expense is included in costs of sales; selling, general and administrative expenses; and research and development expenses in the Consolidated Statements of Operations based on the specific categorization and use of the underlying assets being depreciated.

We review property, plant and equipment to determine whether an event or change in circumstances indicates the carrying values of the assets may not be recoverable. We base our evaluation on the nature of the assets, the future economic benefit of the assets, and any historical or future profitability measurements, as well as other external market conditions or factors that may be present. If such impairment indicators are present or other factors exist that indicate that the carrying amount of an asset may not be recoverable, we determine whether impairment has occurred through the use of an undiscounted cash flow analysis. If impairment has occurred, we recognize a loss for the difference between the carrying amount and the fair value of the asset.

For purposes of impairment testing of long-lived assets, we have identified asset groups at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. Generally, our asset groups are based on an individual plant or operating facility level. In some circumstances, however, a combination of plants or operating facilities may be considered the asset group due to interdependence of operational activities and cash flows.

### Goodwill and Intangible Assets

Our intangible assets consist of (a) definite-lived assets subject to amortization such as developed technology, customer relationships, certain in-service research and development, certain trademarks, backlog, and capitalized software intangible assets, and (b) indefinite-lived assets not subject to amortization such as goodwill, certain trademarks, and certain in-process research and development intangible assets. We record amortization of the definite-lived intangible assets over the estimated useful lives of the related assets, which generally range from one year or less for backlog to more than 25 years for certain of our customer relationships. We determine the amortization method for our definite-lived intangible assets based on the pattern in which the economic benefits of the intangible asset are consumed. In the event we cannot reliably determine that pattern, we utilize a straight-line amortization method.

We test our goodwill and other indefinite-lived intangible assets not subject to amortization for impairment on an annual basis during the fourth quarter or when indicators of impairment exist. We base our estimates on assumptions we believe to be reasonable, but which are not predictable with precision and therefore are inherently uncertain.

Actual future results could differ from these estimates.

The accounting guidance related to goodwill impairment testing allows for the performance of an optional qualitative assessment of whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Such an evaluation is made based on the weight of all available evidence and the significance of all identified events and circumstances that may influence the fair value of a reporting unit. If it is more likely than not that the fair value is less than the carrying value, then a quantitative assessment is required for the reporting unit, as described in the paragraph below. In 2017, we performed a qualitative assessment for seven of our reporting units, which collectively represented approximately \$547.2 million of our consolidated goodwill balance. For those reporting units for which we performed a qualitative assessment, we determined that it was more likely than not that the fair value was greater than the carrying value, and therefore, we did not perform the calculation of fair value for these reporting units as described in the paragraph below.

For our annual impairment test in 2017, we performed a quantitative assessment for five of our reporting units, which collectively represented approximately \$931.1 million of our consolidated goodwill balance. Under a quantitative

assessment for goodwill impairment, we determine the fair value using the income approach (using Level 3 inputs) as reconciled to our aggregate market capitalization. Under the income approach, we calculate the fair value of a reporting unit based on the present value of estimated future cash flows. If the fair value of the reporting unit exceeds the carrying value of the net assets including goodwill assigned to that unit, goodwill is not impaired. If the carrying value of the reporting unit's net assets including goodwill exceeds the fair value of the reporting unit, then we record an impairment charge based on that difference. In addition to the income approach, we calculate the fair value of our reporting units under a market approach. The market approach measures the fair value of a reporting unit through analysis of financial multiples of comparable businesses. Consideration is given to the financial conditions and operating performance of the reporting unit being valued relative to those publicly-traded companies operating in the same or

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similar lines of business. The fair values of the five reporting units tested under a quantitative approach were in excess of the carrying values as of the impairment testing date.

We did not recognize any goodwill impairment in 2017, 2016, or 2015. See Note 10 for further discussion.

We also evaluate indefinite lived intangible assets for impairment annually or at other times if events have occurred or circumstances exist that indicate the carrying values of those assets may no longer be recoverable. We compare the fair value of the asset with its carrying amount. If the carrying amount of the asset exceeds its fair value, we recognize an impairment loss in an amount equal to that excess. We did not recognize impairment charges for our indefinite lived intangible assets in 2017, 2016, or 2015. See Note 11 for further discussion.

We review intangible assets subject to amortization whenever an event or change in circumstances indicates the carrying values of the assets may not be recoverable. We test intangible assets subject to amortization for impairment and estimate their fair values using the same assumptions and techniques we employ on property, plant and equipment. We did not recognize any impairment charges for amortizable intangible assets in 2017, 2016, or 2015.

### Equity Method Investment

We had a 50% ownership interest in Xuzhou Hirschmann Electronics Co. Ltd (the Hirschmann JV). The Hirschmann JV is an entity located in China that supplies load-moment indicators to the mobile crane market. We sold the Hirschmann JV effective December 31, 2017 and recognized a loss on sale of the assets of \$1.0 million. When we committed to a plan to sell the Hirschmann JV in 2016, the carrying value of our investment in the Hirschmann JV was classified as held for sale. As of December 31, 2016, the carrying value of our investment was \$26.8 million. Prior to selling the Hirschmann JV, we accounted for this investment using the equity method of accounting. See Note 4.

### Pension and Other Postretirement Benefits

Our pension and other postretirement benefit costs and obligations are dependent on the various actuarial assumptions used in calculating such amounts. These assumptions relate to discount rates, salary growth, long-term return on plan assets, health care cost trend rates, mortality tables, and other factors. We base the discount rate assumptions on current investment yields on high-quality corporate long-term bonds. The salary growth assumptions reflect our long-term actual experience and future or near-term outlook. We determine the long-term return on plan assets based on historical portfolio results and management's expectation of the future economic environment. Our health care cost trend assumptions are developed based on historical cost data, the near-term outlook, and an assessment of likely long-term trends. Actual results that differ from our assumptions are accumulated and, if in excess of the lesser of 10% of the projected benefit obligation or the fair market value of plan assets, are amortized over the estimated future working life of the plan participants.

### Accrued Sales Rebates

We grant incentive rebates to participating customers as part of our sales programs. The rebates are determined based on certain targeted sales volumes. Rebates are paid quarterly or annually in either cash or receivables credits. Until we can process these rebates through individual customer records, we estimate the amount of outstanding rebates and recognize them as accrued liabilities and reductions in our gross revenues. We base our estimates on both historical and anticipated sales demand and rebate program participation. We charge revisions to these estimates back to accrued liabilities and revenues in the period in which the facts that give rise to each revision become known. Future market conditions and product transitions might require us to take actions to increase sales rebates offered, possibly resulting in an incremental increase in accrued liabilities and an incremental reduction in revenues at the time the rebate is offered. Accrued sales rebates at December 31, 2017 and 2016 totaled \$38.0 million and \$33.1 million, respectively.

### Contingent Liabilities

We have established liabilities for environmental and legal contingencies that are probable of occurrence and reasonably estimable, the amounts of which are currently not material. A significant amount of judgment and use of estimates is required to quantify our ultimate exposure in these matters. We review the valuation of these liabilities on a quarterly basis, and we adjust the balances to account for changes in circumstances for ongoing and emerging issues.

We accrue environmental remediation costs based on estimates of known environmental remediation exposures developed in consultation with our environmental consultants and legal counsel, the amounts of which are not currently material. We expense environmental compliance costs, which include maintenance and operating costs with respect to ongoing monitoring programs,

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as incurred. We evaluate the range of potential costs to remediate environmental sites. The ultimate cost of site clean-up is difficult to predict given the uncertainties of our involvement in certain sites, uncertainties regarding the extent of the required clean-up, the availability of alternative clean-up methods, variations in the interpretation of applicable laws and regulations, the possibility of insurance recoveries with respect to certain sites, and other factors. We are, from time to time, subject to routine litigation incidental to our business. These lawsuits primarily involve claims for damages arising out of the use of our products, allegations of patent or trademark infringement, and litigation and administrative proceedings involving employment matters and commercial disputes. Assessments regarding the ultimate cost of lawsuits require judgments concerning matters such as the anticipated outcome of negotiations, the number and cost of pending and future claims, and the impact of evidentiary requirements. Based on facts currently available, we believe the disposition of the claims that are pending or asserted will not have a materially adverse effect on our financial position, results of operations or cash flow.

**Business Combination Accounting**

We allocate the purchase price of an acquired business to its identifiable assets and liabilities based on estimated fair values. The excess of the purchase price over the amount allocated to the assets and liabilities, if any, is recorded to goodwill. We use all available information to estimate fair values. We typically engage third party valuation specialists to assist in the fair value determination of inventories, tangible long-lived assets, and intangible assets other than goodwill. The carrying values of acquired receivables and accounts payable have historically approximated their fair values as of the business combination date. As necessary, we may engage third party specialists to assist in the estimation of fair value for certain liabilities, such as deferred revenue or postretirement benefit liabilities. We adjust the preliminary purchase price allocation, as necessary, typically up to one year after the acquisition closing date as we obtain more information regarding asset valuations and liabilities assumed.

**Revenue Recognition**

We recognize revenue when all of the following circumstances are satisfied: (1) persuasive evidence of an arrangement exists, (2) price is fixed or determinable, (3) collectability is reasonably assured, and (4) delivery has occurred. Delivery typically occurs in the period in which the customer takes title and assumes the risks and rewards of ownership of the products specified in the customer's purchase order or sales agreement. At times, we enter into arrangements that involve the delivery of multiple elements. For these arrangements, when the elements can be separated, the revenue is allocated to each deliverable based on that element's relative selling price and recognized based on the period of delivery for each element. Generally, we determine relative selling price using vendor specific objective evidence (VSOE).

We record revenue net of estimated rebates, price allowances, invoicing adjustments, and product returns. We record revisions to these estimates in the period in which the facts that give rise to each revision become known. Taxes collected from customers and remitted to governmental authorities are not included in our revenues.

We have certain products subject to the accounting guidance on software revenue recognition. For such products, software license revenue is recognized when persuasive evidence of an arrangement exists, delivery of the product has occurred, the fee is fixed or determinable, collection is probable and VSOE of the fair value of undelivered elements exists. As substantially all of the software licenses are sold in multiple-element arrangements that include either support or professional services, we use the residual method to determine the amount of software license revenue to be recognized. Under the residual method, consideration is allocated to undelivered elements based upon VSOE of the fair value of those elements, with the residual of the arrangement fee allocated to and recognized as software license revenue. We have established VSOE of the fair value of support, subscription-based software licenses, and professional services. Software license revenue is generally recognized upon delivery of the software if all revenue recognition criteria are met.

Revenue allocated to support services under our support contracts is typically paid in advance and recognized ratably over the term of the service. Revenue allocated to subscription-based software and remote ongoing operational services is also paid in advance and recognized ratably over the term of the service. Revenue allocated to professional services is recognized as the services are performed.

**Contingent Gain**

On July 5, 2011, our wholly-owned subsidiary, PPC Broadband, Inc. (PPC), filed an action for patent infringement against Corning Optical Communications RF LLC (Corning). The Complaint alleged that Corning infringed two of PPC's patents. In July 2015, a jury found that Corning willfully infringed both patents. In November 2016, following a series of post-trial motions, the trial judge issued rulings for a total judgment in our favor of approximately \$61.3 million. In December 2016, Corning appealed the



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case to the U.S. Court of Appeals for the Federal Circuit, and that appeal remains pending. We have not recorded any amounts in our consolidated financial statements related to this matter due to the pendency of the appeal.

In 2016, we entered into a patent settlement agreement with a company whereby we received \$10.3 million of royalty revenues. Our Broadcast Solutions Segment Revenues in 2016 include \$4.7 million of the \$10.3 million total royalty revenues received from the patent settlement agreement. The remaining \$5.6 million is a reconciling item from total Segment Revenues to consolidated revenues as this portion represented the settlement for royalties prior to 2016. See Note 6.

### Cost of Sales

Cost of sales includes our total cost of inventory sold during the period, including material, labor, production overhead costs, variable manufacturing costs, and fixed manufacturing costs. Production overhead costs include operating supplies, applicable utility expenses, maintenance costs, and scrap. Variable manufacturing costs include inbound, interplant, and outbound freight, inventory shrinkage, and charges for excess and obsolete inventory. Fixed manufacturing costs include the costs associated with our purchasing, receiving, inspection, warehousing, distribution centers, production and inventory control, and manufacturing management. Cost of sales also includes the costs to provide maintenance and support and other professional services.

### Shipping and Handling Costs

We recognize fees earned on the shipment of product to customers as revenues and recognize costs incurred on the shipment of product to customers as a cost of sales.

### Selling, General and Administrative Expenses

Selling, general and administrative expenses include expenses not directly related to the production of inventory. They include all expenses related to selling and marketing our products, as well as the salary and benefit costs of associates performing the selling and marketing functions. Selling, general and administrative expenses also include salary and benefit costs, purchased services, and other costs related to our executive and administrative functions.

### Research and Development Costs

Research and development costs are expensed as incurred.

### Advertising Costs

Advertising costs are expensed as incurred. Advertising costs were \$25.0 million, \$27.2 million, and \$27.5 million for 2017, 2016, and 2015, respectively.

### Share-Based Compensation

We compensate certain employees and non-employee directors with various forms of share-based payment awards and recognize compensation costs for these awards based on their fair values. We estimate the fair values of certain awards, primarily stock appreciation rights (SARs), on the grant date using the Black-Scholes-Merton option-pricing formula, which incorporates certain assumptions regarding the expected term of an award and expected stock price volatility. We develop the expected term assumption based on the vesting period and contractual term of an award, our historical exercise and cancellation experience, our stock price history, plan provisions that require exercise or cancellation of awards after employees terminate, and the extent to which currently available information indicates that the future is reasonably expected to differ from past experience. We develop the expected volatility assumption based on historical price data for our common stock. We estimate the fair value of certain restricted stock units with service vesting conditions and performance vesting conditions based on the grant date stock price. We estimate the fair value of certain restricted stock units with market conditions using a Monte Carlo simulation valuation model with the assistance of a third party valuation firm.

After calculating the aggregate fair value of an award, we use an estimated forfeiture rate to discount the amount of share-based compensation cost expected to be recognized in our operating results over the service period of the award. We develop the forfeiture assumption based on our historical pre-vesting cancellation experience.

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### Income Taxes

Income taxes are provided based on earnings reported for financial statement purposes. The provision for income taxes differs from the amounts currently payable to taxing authorities because of the recognition of revenues and expenses in different periods for income tax purposes than for financial statement purposes. Income taxes are provided as if operations in all countries, including the U.S., were stand-alone businesses filing separate tax returns. The Tax Cuts and Jobs Act of 2017 included a one-time transition tax on unremitted foreign earnings, and accordingly, we recorded tax expense of \$29.1 million related to the transition tax on the one-time mandatory deemed repatriation of all our foreign earnings as of December 31, 2017. See Note 16 Income Taxes in the accompanying notes to our consolidated financial statements.

We recognize deferred tax assets resulting from tax credit carryforwards, net operating loss carryforwards, and deductible temporary differences between taxable income on our income tax returns and pretax income on our financial statements. Deferred tax assets generally represent future tax benefits to be received when these carryforwards can be applied against future taxable income or when expenses previously reported in our Consolidated Financial Statements become deductible for income tax purposes. A deferred tax asset valuation allowance is required when some portion or all of the deferred tax assets may not be realized. The Tax Cuts and Jobs Act of 2017 included a \$36.0 million tax benefit for the remeasurement of deferred tax assets and liabilities to the 21% rate at which they are expected to reverse and a valuation allowance of \$35.3 million recorded against foreign tax credit carryforwards that we no longer expect to be able to realize based upon the new tax law.

Our effective tax rate is based on expected income, statutory tax rates, and tax planning opportunities available to us in the various jurisdictions in which we operate. Significant judgment is required in determining our effective tax rate and in evaluating our tax positions. We establish accruals for uncertain tax positions when we believe that the full amount of the associated tax benefit may not be realized. To the extent we were to prevail in matters for which accruals have been established or would be required to pay amounts in excess of reserves, there could be a material effect on our income tax provisions in the period in which such determination is made.

### Current-Year Adoption of Accounting Pronouncements

In July 2015, the FASB issued Accounting Standards Update No. 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory. Under the new guidance, an entity is to measure inventory at the lower of cost and the net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The standard is effective for fiscal years beginning after December 15, 2016. We adopted ASU 2015-11 effective January 1, 2017. Adoption had no impact on our results of operations.

In January 2017, the FASB issued Accounting Standards Update No. 2017-04, Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment. Under the new guidance, if a reporting unit's carrying amount exceeds its fair value, an entity will record an impairment charge based on that difference. The impairment charge is limited to the amount of goodwill allocated to the reporting unit. ASU 2017-04 eliminates the prior requirement of calculating a goodwill impairment charge using Step 2. The standard is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. We early adopted ASU 2017-04 effective January 1, 2017. Adoption had no impact on our results of operations.

### Pending Adoption of Recent Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (ASU 2014-09), which will replace most existing revenue recognition guidance in U.S. GAAP. The core principle of the ASU is that an entity should recognize revenue for the transfer of goods or services equal to the amount that it expects to be entitled to receive for those goods or services. ASU 2014-09 requires additional disclosure about the nature, amount, timing, and uncertainty of revenue and cash flows arising from customer contracts, including

significant judgments and changes in judgments. We plan to adopt ASU 2014-09 on January 1, 2018, using the modified retrospective method of adoption. We are substantially complete with our evaluation of the impact of adopting ASU 2014-09 on our consolidated financial statements. We do not expect significant changes in the timing or method of revenue recognition for any of our material revenue streams. In connection with adopting ASU 2014-09, we expect to record a cumulative-effect adjustment net of tax to retained earnings of \$2.6 million on January 1, 2018. This adjustment primarily relates to the deferral of costs to obtain a contract that were previously expensed at the beginning of the contract period.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02, Leases (ASU 2016-02), a leasing standard for both lessees and lessors. Under its core principle, a lessee will recognize lease assets and liabilities on the balance sheet for all arrangements with terms longer than 12 months. Lessor accounting remains largely consistent with existing U.S. generally accepted accounting principles. The new standard will be effective for us beginning January 1, 2019. Early adoption is permitted. The

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standard requires the use of a modified retrospective transition method. We are still evaluating the effect that ASU 2016-02 will have on our consolidated financial statements and related disclosures, but our initial assessment indicates that it will have a material impact to total assets and liabilities as we will be required to recognize lease assets and liabilities for all operating leases in which we are the lessee.

In August 2016, the FASB issued Accounting Standards Update No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. The new guidance addresses how the following eight specific cash flow items are to be presented: Debt prepayment or debt extinguishment costs; settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; contingent consideration payments made after a business combination; proceeds from the settlement of insurance claims; proceeds from the settlement of corporate-owned life insurance policies (including bank-owned life insurance policies); distributions received from equity method investees; beneficial interests in securitization transactions; and separately identifiable cash flows and application of the predominance principle. The standard is effective for fiscal years beginning after December 15, 2017, and early adoption is permitted. We do not expect the standard to have a material impact on our consolidated financial statements and related disclosures.

In October 2016, the FASB issued Accounting Standards Update No. 2016-16, Intra-Entity Transfers of Assets Other Than Inventory (ASU 2016-16), which requires recognition of the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Consequently, the standard eliminates the exception to the recognition of current and deferred income taxes for an intra-entity asset transfer other than for inventory until the asset has been sold to an outside party. The new standard will be effective for us beginning January 1, 2018. We are evaluating the effect that ASU 2016-16 will have on our consolidated financial statements and related disclosures.

In March 2017, the FASB issued Accounting Standards Update No. 2017-07, Compensation - Retirement Benefits: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost (ASU 2017-07), which requires an entity to report the service cost component in the same line item or items as other compensation costs arising from the service rendered by their employees during the period. The other components of net benefit cost are required to be presented in the Statement of Operations separately from the service cost component after Operating Income. Additionally, only the service cost component will be eligible for capitalization, when applicable. The standard requires the amendments to be applied retrospectively for the presentation of the service cost component and the other cost components of net periodic pension cost and net periodic OPEB cost in the Statement of Operations and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension and OPEB costs. The new standard will be effective for us beginning January 1, 2018. We are evaluating the effect that ASU 2017-07 will have on our consolidated financial statements and related disclosures.

In August 2017, the FASB issued Accounting Standards Update No. ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities. The new guidance better aligns an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. The new guidance also makes certain targeted improvements to simplify the application of hedge accounting guidance and ease the administrative burden of hedge documentation requirements and assessing hedge effectiveness. The standard is effective for fiscal years beginning after December 15, 2018, and early adoption is permitted. We do not expect the standard to have a material impact on our consolidated financial statements and related disclosures.

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions of the Tax Cuts and Jobs Act (the "Act"). The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or to treat any taxes on GILTI inclusions as a period cost are both

acceptable methods subject to an accounting policy election. Pending further anticipated clarification and guidance related to the application of the GILTI provisions and their impact to Belden, the Company intends to further assess the materiality of the anticipated GILTI inclusion before a policy election is made.

Note 3: Acquisitions

Thinklogical Holdings, LLC

We acquired 100% of the outstanding ownership interest in Thinklogical Holdings, LLC (Thinklogical) on May 31, 2017 for cash of \$171.3 million. Thinklogical designs, manufactures, and markets high-bandwidth fiber matrix switches, video, and keyboard/video/mouse extender solutions, camera extenders, and console management solutions. Thinklogical is headquartered in Connecticut. The results of Thinklogical have been included in our Consolidated Financial Statements from May 31, 2017, and are reported within the Broadcast Solutions segment. The following table summarizes the estimated, preliminary fair values of the assets acquired and the liabilities assumed as of May 31, 2017 (in thousands):

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Cash	\$5,376
Receivables	4,355
Inventory	16,424
Prepaid and other current assets	320
Property, plant, and equipment	4,289
Goodwill	71,394
Intangible assets	73,400
Total assets	175,558
Accounts payable	1,231
Accrued liabilities	1,353
Deferred revenue	1,702
Total liabilities	4,286
Net assets	\$ 171,272

A single estimate of fair value results from a complex series of judgments about future events and uncertainties and relies heavily on estimates and assumptions. The judgments we have used in estimating the preliminary fair values assigned to each class of acquired assets and assumed liabilities could materially affect the results of our operations.

The preliminary fair value of acquired receivables is \$4.4 million, which is equivalent to its gross contractual amount.

For purposes of the above allocation, we based our estimate of the preliminary fair values for the acquired inventory, intangible assets, and deferred revenue on a preliminary valuation study performed by a third party valuation firm. We have estimated a preliminary fair value adjustment for inventories based on the estimated selling price of the work-in-process and finished goods acquired at the closing date less the sum of the costs to complete the work-in-process, the costs of disposal, and a reasonable profit allowance for our post acquisition selling efforts. We used various valuation methods including discounted cash flows, lost income, excess earnings, and relief from royalty to estimate the preliminary fair value of the identifiable intangible assets and deferred revenue (Level 3 valuation). The determination of the fair value of the assets acquired and liabilities assumed and the allocation of the purchase price is substantially complete pending the completion of taxes.

Goodwill and other intangible assets reflected above were determined to meet the criterion for recognition apart from tangible assets acquired and liabilities assumed. The goodwill is primarily attributable to expected synergies and the assembled workforce. The expected synergies for the Thinklogical acquisition primarily consist of utilizing Belden's fiber and connectivity portfolio with Thinklogical's connections between matrix switch, control systems, transmitters and source to expand our product portfolio across our segments to both existing and new customers. Our tax basis in the acquired goodwill is approximately \$44.0 million and is deductible for tax purposes over a period of 15 years up to the amount of the tax basis. The intangible assets related to the acquisition consisted of the following:

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	Fair Value (In thousands)	Amortization Period (In years)
Intangible assets subject to amortization:		
Developed technologies	\$ 62,600	10.0
Customer relationships	6,500	8.0
Trademarks	2,900	10.0
Sales backlog	1,400	0.3
Total intangible assets subject to amortization	73,400	
Intangible assets not subject to amortization:		
Goodwill	71,394	n/a
Total intangible assets not subject to amortization	71,394	
Total intangible assets	\$ 144,794	
Weighted average amortization period		9.6

The amortizable intangible assets reflected in the table above were determined by us to have finite lives. The useful life for the developed technology intangible asset was based on the estimated time that the technology provides us with a competitive advantage and thus approximates the period and pattern of consumption of the intangible asset. The useful life for the customer relationship intangible asset was based on our forecasts of estimated sales from recurring customers. The useful life for the trademarks was based on the period of time we expect to continue to go to market using the trademarks. The useful life of the backlog intangible asset was based on our estimate of when the ordered items would ship.

Our consolidated revenues and consolidated income from continuing operations before taxes for the year ended December 31, 2017 included \$30.8 million and \$(8.9) million, respectively, from Thinklogical. The loss before taxes from Thinklogical included \$11.9 million of amortization of intangible assets and \$6.1 million of cost of sales related to the adjustment of acquired inventory to fair value.

The following table illustrates the unaudited pro forma effect on operating results as if the Thinklogical acquisition had been completed as of January 1, 2016.

	Years Ended	
	December 31, 2017	December 31, 2016
	(In thousands, except per share data) (Unaudited)	
Revenues	\$2,399,715	\$2,407,830
Net income attributable to Belden common stockholders	60,690	113,014
Diluted income per share attributable to Belden common stockholders	\$1.42	\$2.66

For purposes of the pro forma disclosures, the year ended December 31, 2016 includes nonrecurring expenses from the effects of purchase accounting, including cost of sales arising from the adjustment of inventory to fair value of \$6.1 million and amortization of the sales backlog intangible asset of \$1.4 million.

The above unaudited pro forma financial information is presented for informational purposes only and does not purport to represent what our results of operations would have been had we completed the acquisition on the date assumed, nor is it necessarily indicative of the results that may be expected in future periods. Pro forma adjustments exclude cost savings from any synergies resulting from the acquisition.

We acquired 100% of the shares of M2FX Limited (M2FX) on January 7, 2016 for a purchase price of \$19.0 million. M2FX is a manufacturer of fiber optic cable and fiber protective solutions for broadband access and telecommunications networks. M2FX is located in the United Kingdom. The results of M2FX have been included in our Consolidated Financial Statements from January 7, 2016, and are reported within the Broadcast Solutions segment. The M2FX acquisition was not material to our financial position or results of operations. Of the total purchase price, \$3.2 million was deferred as estimated earn-out consideration. We determined the estimated fair value of the earn-out with the assistance of a third party valuation specialist using a probability weighted discounted cash flow model. The estimated earn-out was scheduled to be paid in early 2017, however, the financial targets tied



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to the earn-out were not achieved. We reduced the earn-out liability to zero as of December 31, 2016 and recognized a \$3.2 million benefit in Selling, General and Administrative expenses in the Consolidated Statements of Operations. This benefit was excluded from Segment EBITDA of our Broadcast Solutions segment.

## Tripwire

We acquired 100% of the outstanding ownership interest in Tripwire, Inc. (Tripwire) on January 2, 2015 for a purchase price of \$703.2 million. The purchase price was funded with cash on hand and \$200.0 million of borrowings under our revolving credit agreement (see Note 13). Tripwire is a leading global provider of advanced threat, security and compliance solutions. Tripwire's solutions enable enterprises, service providers, manufacturers, and government agencies to detect, prevent, and respond to growing security threats. Tripwire is headquartered in Portland, Oregon. The results of Tripwire have been included in our Consolidated Financial Statements from January 2, 2015. Tripwire is reported within the Network Solutions segment. The following table summarizes the estimated fair values of the assets acquired and the liabilities assumed as of January 2, 2015 (in thousands).

Cash	\$2,364
Receivables	37,792
Inventories	603
Other current assets	2,453
Property, plant and equipment	10,021
Goodwill	462,215
Intangible assets	306,000
Other non-current assets	659
Total assets	822,107
Accounts payable	3,142
Accrued liabilities	12,142
Deferred revenue	8,000
Deferred income taxes	95,074
Other non-current liabilities	540
Total liabilities	118,898
Net assets	\$703,209

A single estimate of fair value results from a complex series of judgments about future events and uncertainties and relies heavily on estimates and assumptions. The judgments we have used in estimating the fair values assigned to each class of acquired assets and assumed liabilities could materially affect the results of our operations.

The fair value of acquired receivables is \$37.8 million, with a gross contractual amount of \$38.0 million.

For purposes of the above allocation, we based our estimate of the fair values for the acquired intangible assets, property, plant and equipment, and deferred revenue on a valuation study performed by a third party valuation firm.

We used various valuation methods including discounted cash flows to estimate the fair value of the identifiable intangible assets and deferred revenue (Level 3 valuation). To determine the value of the acquired property, plant, and equipment, we used various valuation methods, including both the market approach, which considers sales prices of similar assets in similar conditions (Level 2 valuation), and the cost approach, which considers the cost to replace the asset adjusted for depreciation (Level 3 valuation).

Goodwill and other intangible assets reflected above were determined to meet the criterion for recognition apart from tangible assets acquired and liabilities assumed. The goodwill is primarily attributable to expected synergies and the assembled workforce. The expected synergies for the Tripwire acquisition primarily consist of an expanded product portfolio with network security solutions that can be marketed to our existing broadcast, enterprise, and industrial customers. We do not have tax basis in the goodwill, and therefore, the goodwill is not deductible for tax purposes. The intangible assets related to the acquisition consisted of the following:



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	Estimated Fair Value (In thousands)	Amortization Period (In years)
Intangible assets subject to amortization:		
Developed technology	\$ 210,000	5.8
Customer relationships	56,000	15
Trademarks	31,000	10
Backlog	3,000	1
Total intangible assets subject to amortization	300,000	
Intangible assets not subject to amortization:		
Goodwill	462,215	
In-process research and development	6,000	
Total intangible assets not subject to amortization	468,215	
Total intangible assets	\$ 768,215	
Weighted average amortization period		7.9

The amortizable intangible assets reflected in the table above were determined by us to have finite lives. In connection with the segment change discussed in Note 6, we re-evaluated the useful life of the Tripwire trademark and concluded that an indefinite life was no longer appropriate; therefore, we began amortizing the Tripwire trademark in the first quarter of 2017. The useful life for the developed technology intangible asset was based on the estimated time that the technology provides us with a competitive advantage and thus approximates the period of consumption of the intangible asset. The useful life for the customer relationship intangible asset was based on our forecasts of customer turnover. The useful life for the trademarks was based on the period of time we expect to continue to go to market using the trademarks. The useful life of the backlog intangible asset was based on our estimate of when the ordered items would ship.

In-process research and development assets are considered indefinite-lived intangible assets until the completion or abandonment of the associated research and development efforts. Upon completion of the development process, we will make a determination of the useful life of the asset and begin amortizing the assets over that period. If the project is abandoned, we will write-off the asset at such time.

Our consolidated revenues and consolidated income from continuing operations before taxes for the year ended December 31, 2015 included \$116.6 million and \$(47.8) million, respectively, from Tripwire. In 2015, segment revenues for our Network Solutions segment included \$50.4 million of revenues that would have been recorded by Tripwire had they remained an independent entity. Our consolidated revenues in 2015 do not include these revenues due to the purchase accounting effect of recording deferred revenue at fair value. The loss before taxes from Tripwire for the year ended December 31, 2015 included \$43.2 million of amortization of intangible assets and \$9.2 million of compensation expense related to the accelerated vesting of acquiree stock based compensation awards.

The following table illustrates the unaudited pro forma effect on operating results as if the Tripwire acquisition had been completed as of January 1, 2014.

	Year Ended December 31, 2015 (In thousands, except per share data) (Unaudited)
Revenues	\$ 2,354,191
Net income attributable to Belden common stockholders	92,104
Diluted income per share attributable to Belden common stockholders	\$ 2.14

For purposes of the pro forma disclosures, the year ended December 31, 2014 includes nonrecurring expenses from the effects of purchase accounting, including compensation expense from the accelerated vesting of acquiree stock compensation awards of \$9.2 million and amortization of the sales backlog intangible asset of \$3.0 million.

The above unaudited pro forma financial information is presented for informational purposes only and does not purport to represent what our results of operations would have been had we completed the acquisition on the date assumed, nor is it necessarily indicative

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of the results that may be expected in future periods. Pro forma adjustments exclude cost savings from any synergies resulting from the acquisition.

## Note 4: Assets Held for Sale

We classify assets and liabilities as held for sale (disposal group) when management, having the authority to approve the action, commits to a plan to sell the disposal group, the sale is probable within one year, and the disposal group is available for immediate sale in its present condition. We also consider whether an active program to locate a buyer has been initiated, whether the disposal group is marketed actively for sale at a price that is reasonable in relation to its current fair value, and whether actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. When we classify a disposal group as held for sale, we test for impairment. An impairment charge is recognized when the carrying value of the disposal group exceeds the estimated fair value, less costs to sell. We also cease depreciation and amortization for assets classified as held for sale.

During the fourth quarter of 2016, we committed to a plan to sell our MCS business and Hirschmann JV and determined that we met all of the criteria to classify the assets and liabilities of these businesses as held for sale. The MCS business was part of the Industrial Solutions segment and the Hirschmann JV was an equity method investment that was not included in an operating segment. The MCS business operated in Germany and the United States, and the Hirschmann JV was an equity method investment located in China. During 2016, we reached an agreement in principle to sell this disposal group for a total sales price of \$39 million plus a working capital adjustment. As the carrying value of the disposal group exceeded the fair value less costs to sell, which we determined based on the expected sales price, by \$23.9 million, we recognized an impairment charge equal to this amount in 2016.

Effective December 31, 2017, we sold the MCS business and Hirschmann JV for a total purchase price of \$40.2 million and recognized a loss on sale of the assets of \$1.0 million, which is included in selling, general and administrative expenses. This loss includes \$2.8 million of accumulated other comprehensive losses that were recognized as a result of the sale. Our accounts receivable balance as of December 31, 2017 included \$40.2 million from the MCS business and Hirschmann JV sale.

The following table provides the major classes of assets and liabilities classified as held for sale as of December 31, 2016. In addition, the disposal group had \$15.7 million of accumulated other comprehensive losses at December 31, 2016.

	December 31, 2016
	(In thousands)
Receivables, net	\$ 4,551
Inventories, net	2,848
Other current assets	1,131
Property, plant, and equipment, less accumulated depreciation	1,946
Intangible assets, less accumulated amortization	4,405
Goodwill	5,477
Other long-lived assets	26,766
Total assets of disposal group	47,124
Impairment of assets held for sale	(23,931 )
Total assets held for sale	\$ 23,193
Accrued liabilities	\$ 1,288
Postretirement benefits	448
Total liabilities held for sale	\$ 1,736

## Note 5: Discontinued Operations

In 2010, we completed the sale of Trapeze Networks, Inc. (Trapeze) for \$152.1 million and recognized a pre-tax gain of \$88.3 million (\$44.8 million after-tax). At the time the transaction closed, a portion of the sale price was placed in escrow as partial security for our indemnity obligations under the sale agreement. During 2015, we agreed to a final settlement with the buyer of Trapeze regarding the escrow, and collected \$3.5 million of the escrow receivable and recognized a \$0.2 million (\$0.1 million net

of tax) loss from disposal of discontinued operations. Additionally, we recognized a \$0.2 million net loss from discontinued operations for income tax expense related to this disposed business in 2015.

#### Note 6: Operating Segments and Geographic Information

We are organized around four global business platforms: Broadcast Solutions, Enterprise Solutions, Industrial Solutions, and Network Solutions. To leverage the Company's strengths in networking, IoT, and cybersecurity technologies, the Network Solutions platform was formed in January 2017 with the combination of the former Industrial IT and Network Security platforms. The former Network Security platform was formed with our acquisition of Tripwire in January 2015. The formation of the Network Solutions platform is a natural evolution in our organic and inorganic strategies for a range of industrial and non-industrial applications. In addition, to capitalize on the adoption of IP technology and accelerate our penetration of the commercial audio-video market, we transferred responsibility of audio-video cable and connectors from our Broadcast Solutions platform to our Enterprise Solutions platform effective January 1, 2016. We have revised the prior period segment information to conform to the changes in the composition of these reportable segments. These changes had no impact to our reporting units for purposes of goodwill impairment testing.

We have determined that each of the global business platforms represents a reportable segment.

The segments design, manufacture, and market a portfolio of signal transmission solutions for mission critical applications used in a variety of end markets, including broadcast, enterprise, and industrial. We sell the products manufactured by our segments principally through distributors or directly to systems integrators, original equipment manufacturers (OEMs), end-users, and installers.

The key measures of segment profit or loss reviewed by our chief operating decision maker are Segment Revenues and Segment EBITDA. Segment Revenues represent non-affiliate revenues and include revenues that would have otherwise been recorded by acquired businesses as independent entities but were not recognized in our Consolidated Statements of Operations due to the effects of purchase accounting and the associated write-down of acquired deferred revenue to fair value. Segment EBITDA excludes certain items, including depreciation expense; amortization of intangibles; asset impairment; severance, restructuring, and acquisition integration costs; purchase accounting effects related to acquisitions, such as the adjustment of acquired inventory and deferred revenue to fair value; and other costs. We allocate corporate expenses to the segments for purposes of measuring Segment EBITDA. Corporate expenses are allocated on the basis of each segment's relative EBITDA prior to the allocation.

Our measure of segment assets does not include cash, goodwill, intangible assets, deferred tax assets, or corporate assets. All goodwill is allocated to reporting units of our segments for purposes of impairment testing.

The results of our former equity method investment in the Hirschmann JV, which we sold effective December 31, 2017 (see Note 4), were not included in the corporate expense allocation.

#### Operating Segment Information

Broadcast Solutions	Years ended December 31,		
	2017	2016	2015
	(In thousands)		
Segment revenues	\$725,139	\$769,753	\$739,970
Affiliate revenues	440	744	916
Segment EBITDA	112,849	137,870	113,638
Depreciation expense	15,763	16,229	16,295
Amortization of intangibles	49,325	47,248	49,812
Amortization of software development intangible assets	56	—	—
Severance, restructuring, and acquisition integration costs	5,532	10,414	39,078
Purchase accounting effects of acquisitions	6,133	(2,991)	) 132
Deferred gross profit adjustments	—	1,774	2,446
Patent settlement	—	(5,554)	) —
Acquisition of property, plant and equipment	21,314	15,713	27,365
Segment assets	405,842	325,396	346,095





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Enterprise Solutions	Years ended December 31,		
	2017	2016	2015
	(In thousands)		
Segment revenues	\$631,166	\$603,188	\$605,910
Affiliate revenues	7,385	5,977	5,322
Segment EBITDA	103,650	101,298	100,214
Depreciation expense	10,509	13,226	12,591
Amortization of intangibles	1,729	1,718	1,720
Severance, restructuring, and acquisition integration costs	23,511	11,962	723
Purchase accounting effects of acquisitions	—	912	52
Acquisition of property, plant and equipment	28,126	22,679	10,323
Segment assets	282,072	246,564	238,400
Industrial Solutions	Years ended December 31,		
	2017	2016	2015
	(In thousands)		
Segment revenues	\$628,458	\$585,476	\$603,350
Affiliate revenues	1,441	1,325	1,613
Segment EBITDA	119,642	101,248	99,941
Depreciation expense	12,968	11,038	11,235
Amortization of intangibles	2,571	2,394	3,154
Severance, restructuring, and acquisition integration costs	12,272	9,923	6,228
Purchase accounting effects of acquisitions	—	—	334
Acquisition of property, plant and equipment	8,151	10,486	8,836
Segment assets	300,172	226,306	231,265
Network Solutions	Years ended December 31,		
	2017	2016	2015
	(In thousands)		
Segment revenues	\$403,880	\$399,388	\$411,353
Affiliate revenues	96	79	78
Segment EBITDA	93,893	92,773	87,873
Depreciation expense	6,357	6,715	6,430
Amortization of intangibles	50,372	47,025	49,105
Severance, restructuring, and acquisition integration costs	1,475	6,471	1,141
Purchase accounting effects of acquisitions	—	—	9,229
Deferred gross profit adjustments	—	4,913	50,430
Acquisition of property, plant and equipment	5,168	4,704	7,048
Segment assets	158,309	115,732	118,520

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Total Segments	Years ended December 31,		
	2017	2016	2015
	(In thousands)		
Segment revenues	\$2,388,643	\$2,357,805	\$2,360,583
Affiliate revenues	9,362	8,125	7,929
Segment EBITDA	430,034	433,189	401,666
Depreciation expense	45,597	47,208	46,551
Amortization of intangibles	103,997	98,385	103,791
Amortization of software development intangible assets	56	—	—
Severance, restructuring, and acquisition integration costs	42,790	38,770	47,170
Purchase accounting effects of acquisitions	6,133	(2,079)	9,747
Deferred gross profit adjustments	—	6,687	52,876
Patent settlement	—	(5,554)	—
Acquisition of property, plant and equipment	62,759	53,582	53,572
Segment assets	1,146,395	913,998	934,280

The following table is a reconciliation of the total of the reportable segments' Revenues and EBITDA to consolidated revenues and consolidated income from continuing operations before taxes, respectively.

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Total Segment Revenues	\$2,388,643	\$2,357,805	\$2,360,583
Deferred revenue adjustments (1)	—	(6,687)	(51,361)
Patent settlement (2)	—	5,554	—
Consolidated Revenues	\$2,388,643	\$2,356,672	\$2,309,222
Total Segment EBITDA	\$430,034	\$433,189	\$401,666
Amortization of intangibles	(103,997)	(98,385)	(103,791)
Depreciation expense	(45,597)	(47,208)	(46,551)
Severance, restructuring, and acquisition integration costs (3)	(42,790)	(38,770)	(47,170)
Purchase accounting effects related to acquisitions (4)	(6,133)	2,079	(9,747)
Loss on sale of assets (5)	(1,013)	—	—
Amortization of software development intangible assets	(56)	—	—
Impairment of assets held for sale (5)	—	(23,931)	—
Deferred gross profit adjustments (1)	—	(6,687)	(52,876)
Patent settlement (2)	—	5,554	—
Income from equity method investment	7,502	1,793	1,770
Eliminations	(3,260)	(3,781)	(2,748)
Consolidated operating income	234,690	223,853	140,553
Interest expense, net	(82,901)	(95,050)	(100,613)
Loss on debt extinguishment	(52,441)	(2,342)	—
Consolidated income from continuing operations before taxes	\$99,348	\$126,461	\$39,940

Our segment results include revenues that would have been recorded by acquired businesses had they remained as (1) independent entities. Our consolidated results do not include these revenues due to the purchase accounting effect of recording deferred revenue at fair value. See Note 3, Acquisitions, for details.

(2) Both our consolidated revenues and gross profit were positively impacted by royalty revenues received during 2016 that related to years prior to 2016 as a result of a patent settlement.

(3) See Note 13, Severance, Restructuring, and Acquisition Integration Activities, for details.



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In 2017, we recognized \$6.1 million of cost of sales related to the adjustment of acquired inventory to fair value for our Thinklogical acquisition. In 2016, we made a \$3.2 million adjustment to reduce the earn-out liability associated with the M2FX acquisition. This adjustment was partially offset by \$0.8 million and \$0.2 million of cost of sales related to the adjustment of acquired inventory to fair value related to our Enterprise Solutions segment and M2FX acquisition, respectively. In 2015, we recognized \$9.2 million of compensation expense related to the accelerated vesting of acquiree stock based compensation awards associated with our acquisition of Tripwire. In addition, we recognized \$0.3 million of cost of sales related to the adjustment of acquired inventory to fair value related to our acquisition of Coast.

In 2017 and 2016, we recognized a \$1.0 million loss on sale of assets and \$23.9 million impairment of assets held for sale, respectively, for the sale of our MCS business and Hirschmann JV. See Note 4, Assets Held for Sale, for details.

Below are reconciliations of other segment measures to the consolidated totals.

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Total segment assets	\$1,146,395	\$913,998	\$934,280
Cash and cash equivalents	561,108	848,116	216,751
Goodwill	1,478,257	1,385,995	1,385,115
Intangible assets, less accumulated amortization	545,207	560,082	655,871
Deferred income taxes	42,549	33,706	34,295
Income tax receivable	—	—	3,787
Corporate assets	67,097	64,906	60,503
Total assets	\$3,840,613	\$3,806,803	\$3,290,602
Total segment acquisition of property, plant and equipment	\$62,759	\$53,582	\$53,572
Corporate acquisition of property, plant and equipment	1,502	392	1,397
Total acquisition of property, plant and equipment	\$64,261	\$53,974	\$54,969

Geographic Information

The Company attributes foreign sales based on the location of the customer purchasing the product. The table below summarizes net sales and long-lived assets for the years ended December 31, 2017, 2016 and 2015 for the following countries: the U.S., Canada, China, and Germany. No other individual foreign country's net sales or long-lived assets are material to the Company.

	United States	Canada	China	Germany	All Other	Total
	(In thousands, except percentages)					
Year ended December 31, 2017						
Revenues	\$1,265,455	\$167,605	\$121,600	\$113,990	\$719,993	\$2,388,643
Percent of total revenues	53	% 7	% 5	% 5	% 30	% 100
Long-lived assets	\$231,938	\$33,806	\$34,774	\$38,029	\$63,982	\$402,529
Year ended December 31, 2016						
Revenues	\$1,283,925	\$159,985	\$114,605	\$104,214	\$693,943	\$2,356,672
Percent of total revenues	55	% 7	% 5	% 4	% 29	% 100
Long-lived assets	\$193,263	\$31,278	\$30,487	\$32,386	\$60,654	\$348,068
Year ended December 31, 2015						
Revenues	\$1,270,467	\$170,522	\$114,863	\$103,106	\$650,264	\$2,309,222
Percent of total revenues	55	% 7	% 5	% 4	% 29	% 100
Long-lived assets	\$188,032	\$27,315	\$62,794	\$35,588	\$64,434	\$378,163



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## Major Customer

Revenues generated from sales to the distributor Anixter International Inc., primarily in the Enterprise Solutions and Industrial Solutions segments, were \$292.2 million (12% of revenues), \$286.2 million (12% of revenues), and \$281.9 million (12% of revenues) for 2017, 2016, and 2015, respectively. At December 31, 2017, we had \$38.2 million in accounts receivable outstanding from Anixter International Inc. This represented approximately 8% of our total accounts receivable outstanding at December 31, 2017.

## Note 7: Noncontrolling Interest

In 2015, we entered into a joint venture agreement with Shanghai Hi-Tech Control System Co, Ltd (Hite). The purpose of the joint venture is to develop and provide certain Network Solutions products and integrated solutions to customers in China. Belden and Hite contributed \$1.53 million and \$1.47 million, respectively, to the joint venture in 2015, reflecting ownership percentages of 51% and 49%, respectively. Belden and Hite are committed to fund an additional \$1.53 million and \$1.47 million to the joint venture in the future. The joint venture is determined to not have sufficient equity at risk; therefore, it is considered a variable interest entity. We have determined that Belden is the primary beneficiary of the joint venture, due to both our ownership percentage and our control over the activities of the joint venture that most significantly impact its economic performance based on the terms of the joint venture agreement with Hite. Because Belden is the primary beneficiary of the joint venture, we have consolidated the joint venture in our financial statements. The results of the joint venture attributable to Hite's ownership are presented as net loss attributable to noncontrolling interest in the consolidated statements of operations. The joint venture is not material to our consolidated financial statements as of or for the years ended December 31, 2017 or 2016.

## Note 8: Income Per Share

The following table presents the basis of the income per share computation:

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Numerator:			
Income from continuing operations	\$92,853	\$127,646	\$66,508
Less: Net loss attributable to noncontrolling interest	(357)	(357)	(24)
Less: Preferred stock dividends	34,931	15,428	—
Income from continuing operations attributable to Belden common stockholders	58,279	112,575	66,532
Loss from discontinued operations, net of tax, attributable to Belden common stockholders	—	—	(242)
Loss from disposal of discontinued operations, net of tax, attributable to Belden common stockholders	—	—	(86)
Net income attributable to Belden common stockholders	\$58,279	\$112,575	\$66,204
Denominator:			
Weighted average shares outstanding, basic	42,220	42,093	42,390
Effect of dilutive common stock equivalents	423	464	563
Weighted average shares outstanding, diluted	42,643	42,557	42,953

For the years ended December 31, 2017, 2016, and 2015, diluted weighted average shares outstanding do not include outstanding equity awards of 0.5 million, 0.6 million, and 0.4 million, respectively, because to do so would have been anti-dilutive. In addition, for the years ended December 31, 2017, 2016, and 2015, diluted weighted average shares outstanding do not include outstanding equity awards of 0.2 million, 0.1 million, and 0.0 million, respectively, because the related performance conditions have not been satisfied. Furthermore, for the years ended December 31, 2017 and 2016, diluted weighted average shares outstanding do not include the weighted average impact of preferred shares that are convertible into 6.9 million and 3.0 million common shares, respectively, because deducting the preferred stock dividends from net income was more dilutive.

For purposes of calculating basic earnings per share, unvested restricted stock units are not included in the calculation of basic weighted average shares outstanding until all necessary conditions have been satisfied and issuance of the

shares underlying the

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restricted stock units is no longer contingent. Necessary conditions are not satisfied until the vesting date, at which time holders of our restricted stock units receive shares of our common stock.

For purposes of calculating diluted earnings per share, unvested restricted stock units are included to the extent that they are dilutive. In determining whether unvested restricted stock units are dilutive, each issuance of restricted stock units is considered separately.

Once a restricted stock unit has vested, it is included in the calculation of both basic and diluted weighted average shares outstanding.

## Note 9: Inventories

The major classes of inventories were as follows:

	December 31,	
	2017	2016
	(In thousands)	
Raw materials	\$133,311	\$90,019
Work-in-process	35,807	25,166
Finished goods	153,377	99,784
Gross inventories	322,495	214,969
Excess and obsolete reserves	(25,269 )	(24,561 )
Net inventories	\$297,226	\$190,408

## Note 10: Property, Plant and Equipment

The carrying values of property, plant and equipment were as follows:

	December 31,	
	2017	2016
	(In thousands)	
Land and land improvements	\$31,963	\$28,462
Buildings and leasehold improvements	148,598	136,230
Machinery and equipment	543,594	499,400
Computer equipment and software	136,509	123,909
Construction in process	46,898	35,191
Gross property, plant and equipment	907,562	823,192
Accumulated depreciation	(570,240 )	(513,901 )
Net property, plant and equipment	\$337,322	\$309,291

## Depreciation Expense

We recognized depreciation expense in income from continuing operations of \$45.6 million, \$47.2 million, and \$46.6 million in 2017, 2016, and 2015, respectively.

## Note 11: Intangible Assets

The carrying values of intangible assets were as follows:



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	December 31, 2017			December 31, 2016		
	Gross Carrying Amount (In thousands)	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount (In thousands)	Accumulated Amortization	Net Carrying Amount
Goodwill	\$1,478,257	\$—	\$1,478,257	\$1,385,995	\$—	\$1,385,995
Definite-lived intangible assets subject to amortization:						
Developed technology	\$498,649	\$(318,366)	\$180,283	\$420,928	\$(239,233)	\$181,695
Customer relationships	320,550	(98,175)	222,375	309,112	(77,872)	231,240
Trademarks	56,794	(18,648)	38,146	20,534	(10,915)	9,619
In-service research and development	23,428	(13,483)	9,945	22,977	(9,121)	13,856
Backlog	14,535	(14,535)	—	12,638	(12,638)	—
Total intangible assets subject to amortization	913,956	(463,207)	450,749	786,189	(349,779)	436,410
Indefinite-lived intangible assets not subject to amortization:						
Trademarks	92,758	—	92,758	121,972	—	121,972
In-process research and development	1,700	—	1,700	1,700	—	1,700
Total intangible assets not subject to amortization	94,458	—	94,458	123,672	—	123,672
Intangible assets	\$1,008,414	\$(463,207)	\$545,207	\$909,861	\$(349,779)	\$560,082

## Segment Allocation of Goodwill and Trademarks

The changes in the carrying amount of goodwill assigned to reporting units in our reportable segments are as follows:

	Broadcast Solutions	Enterprise Solutions	Industrial Solutions	Network Solutions	Consolidated
	(In thousands)				
Balance at December 31, 2015	\$536,388	\$73,278	\$196,719	\$578,730	\$1,385,115
Acquisitions and purchase accounting adjustments	8,492	—	—	—	8,492
Translation impact	(838)	—	80	(1,377)	(2,135)
Reclassify to assets held for sale	—	—	(5,477)	—	(5,477)
Balance at December 31, 2016	\$544,042	\$73,278	\$191,322	\$577,353	\$1,385,995
Acquisitions and purchase accounting adjustments	71,394	—	—	—	71,394
Translation impact	13,557	—	2,790	4,521	20,868
Balance at December 31, 2017	\$628,993	\$73,278	\$194,112	\$581,874	\$1,478,257

The changes in the carrying amount of indefinite-lived trademarks are as follows:

	Broadcast Solutions	Enterprise Solutions	Industrial Solutions	Network Solutions	Consolidated
	(In thousands)				
Balance at December 31, 2015	\$80,922	\$4,063	\$9,090	\$35,596	\$129,671
Translation impact	(4,635)	—	40	(199)	(4,794)
Reclassify to assets held for sale	—	—	(2,905)	—	(2,905)
Balance at December 31, 2016	\$76,287	\$4,063	\$6,225	\$35,397	\$121,972
Translation impact	2,727	—	602	658	3,987
Reclassify to definite-lived	—	—	(2,201)	(31,000)	(33,201)
Balance at December 31, 2017	\$79,014	\$4,063	\$4,626	\$5,055	\$92,758



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## Impairment

The annual measurement date for our goodwill and indefinite-lived intangible assets impairment test is our fiscal November month-end. For our 2017 goodwill impairment test, we performed a quantitative assessment for five of our reporting units and determined the estimated fair values of our reporting units by calculating the present values of their estimated future cash flows using Level 3 inputs. We determined that the fair values of the reporting units were in excess of the carrying values; therefore, we did not record any goodwill impairment for the five reporting units. We performed a qualitative assessment for the remaining seven of our reporting units, and we determined that it was more likely than not that the fair value was greater than the carrying value. Therefore, we did not record any goodwill impairment for the seven reporting units. We also did not recognize any goodwill impairment in 2016 or 2015 based on the results of our annual goodwill impairment testing.

Similar to the quantitative goodwill impairment test, we determined the estimated fair values of our indefinite-lived trademarks by calculating the present values of the estimated cash flows (using Level 3 inputs) attributable to the respective trademarks. We did not recognize any trademark impairment charges in 2017, 2016, or 2015.

## Amortization Expense

We recognized amortization expense in income from continuing operations of \$104.0 million, \$98.4 million, and \$103.8 million in 2017, 2016, and 2015, respectively. We expect to recognize annual amortization expense of \$88.2 million in 2018, \$78.1 million in 2019, \$61.7 million in 2020, \$29.7 million in 2021, and \$27.0 million in 2022 related to our intangible assets balance as of December 31, 2017.

The weighted-average amortization period for our customer relationships, trademarks, developed technology, and in-service research and development is 18.5 years, 8.0 years, 6.5 years, and 4.7 years, respectively.

In connection with the segment change discussed in Note 6, we re-evaluated the useful life of the Tripwire trademark and concluded that an indefinite life is no longer appropriate. We have estimated a useful life of 10 years and will re-evaluate this estimate if and when our expected use of the Tripwire trademark changes. We began amortizing the Tripwire trademark in the first quarter of 2017, which resulted in amortization expense of \$3.1 million for the year ended December 31, 2017. As of December 31, 2017, the net book value of the Tripwire trademark was \$27.9 million.

## Note 12: Accounts Payable and Accrued Liabilities

The carrying values of accounts payable and accrued liabilities were as follows:

	December 31,	
	2017	2016
	(In thousands)	
Accounts payable	\$376,277	\$258,203
Current deferred revenue	90,639	80,503
Wages, severance and related taxes	57,633	76,157
Accrued rebates	38,025	33,071
Employee benefits	25,406	24,395
Accrued interest	22,019	27,202
Other (individual items less than 5% of total current liabilities)	68,929	69,012
Accounts payable and accrued liabilities	\$678,928	\$568,543

The majority of our accounts payable balance is due to trade creditors. Our accounts payable balance as of December 31, 2017 and 2016 included \$21.9 million and \$12.4 million, respectively, of amounts due to banks under a commercial acceptance draft program. All accounts payable outstanding under the commercial acceptance draft program are expected to be settled within one year.

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Note 13: Severance, Restructuring, and Acquisition Integration Activities

Industrial Manufacturing Footprint Program: 2016-2017

In the first quarter of 2016, we began a program to consolidate our manufacturing footprint. The manufacturing consolidation is expected to be completed in 2018. We recognized \$30.6 million and \$17.8 million of severance and other restructuring costs for this program during 2017 and 2016, respectively. The costs were incurred by the Enterprise Solutions and Industrial Solutions segments, as the manufacturing locations involved in the program serve both platforms. To date, we have incurred a total of \$48.4 million in severance and other restructuring costs, including manufacturing inefficiencies for this program. We expect to incur approximately \$6 million of additional severance and other restructuring costs for this program in 2018. We expect that the program will generate approximately \$13 million of savings on an annualized basis, which we began to realize in the third quarter of 2017.

Industrial and Network Solutions Restructuring Program: 2015-2016

Both our Industrial Solutions and Network Solutions segments were negatively impacted by a decline in sales volume in 2015. At such time, global demand for industrial products was negatively impacted by the strengthened U.S. dollar and lower energy prices. As a result, our customers reduced their capital spending. In response to these industrial market conditions, we began to execute a restructuring program in the fourth fiscal quarter of 2015 to reduce our cost structure. We recognized approximately \$9.7 million and \$3.3 million of severance and other restructuring costs for this program during 2016 and 2015, respectively. Most of these costs were incurred by our Network Solutions segment. We did not incur any severance and other restructuring costs for this program in 2017. We incurred a total of \$13 million in severance and other restructuring costs for this program. We expected the restructuring program to generate approximately \$18 million of savings on an annualized basis, and we are substantially realizing such benefits.

Grass Valley Restructuring Program: 2015-2016

Our Broadcast Solutions segment's Grass Valley brand was negatively impacted by a decline in global demand of broadcast technology infrastructure products beginning in 2015. Outside of the U.S., demand for these products was impacted by the relative price increase of products due to the strengthened U.S. dollar as well as the impact of weaker economic conditions which have resulted in lower capital spending. Within the U.S., demand for these products was impacted by deferred capital spending. We believe broadcast customers have deferred their capital spending as they navigate through a number of important industry transitions and a changing media landscape. In response to these broadcast market conditions, we began to execute a restructuring program beginning in the third fiscal quarter of 2015 to reduce our cost structure. We recognized approximately \$8.7 million and \$25.4 million of severance and other restructuring costs for this program during 2016 and 2015, respectively. We did not incur any severance and other restructuring costs for this program in 2017. We incurred a total of \$34.1 million in severance and other restructuring costs for this program. We expected the restructuring program to generate approximately \$30 million of savings on an annualized basis, and we are substantially realizing such benefits.

Productivity Improvement Program and Acquisition Integration: 2014-2016

In 2014, we began a productivity improvement program and the integration of our acquisition of Grass Valley. The productivity improvement program focused on improving the productivity of our sales, marketing, finance, and human resources functions relative to our peers. The majority of the costs for the productivity improvement program related to the Industrial Solutions, Enterprise Solutions, and Network Solutions segments. The restructuring and integration activities related to our acquisition of Grass Valley focused on achieving desired cost savings by consolidating existing and acquired operating facilities and other support functions. The Grass Valley costs related to our Broadcast Solutions segment. In 2015, we recorded \$18.5 million of such costs related to these two programs, as well as other cost reduction actions and the integration of our acquisitions of ProSoft, Coast, and Tripwire. In 2016, we recognized \$2.6 million of costs, primarily related to our 2016 acquisition of M2FX. We did not incur any severance and other restructuring costs for this program in 2017. We expected the productivity improvement program to reduce

our operating expenses by approximately \$18 million on an annualized basis, and we are substantially realizing such benefits.

The following tables summarize the costs by segment of the various programs described above as well as other immaterial programs and acquisition integration activities:

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	Severance	Other Restructuring and Integration Costs (In thousands)	Total Costs
Year Ended December 31, 2017			
Broadcast Solutions	\$ 893	\$ 4,639	\$ 5,532
Enterprise Solutions	3,642	19,869	23,511
Industrial Solutions	886	11,386	12,272
Network Solutions	(210 )	1,685	1,475
Total	\$ 5,211	\$ 37,579	\$ 42,790
Year Ended December 31, 2016			
Broadcast Solutions	\$(116 )	\$ 10,530	\$ 10,414
Enterprise Solutions	636	11,326	11,962
Industrial Solutions	2,828	7,095	9,923
Network Solutions	3,734	2,737	6,471
Total	\$ 7,082	\$ 31,688	\$ 38,770
Year Ended December 31, 2015			
Broadcast Solutions	\$ 16,694	\$ 22,384	\$ 39,078
Enterprise Solutions	(186 )	909	723
Industrial Solutions	3,309	2,919	6,228
Network Solutions	(716 )	1,857	1,141
Total	\$ 19,101	\$ 28,069	\$ 47,170

The other restructuring and integration costs in 2017 and 2016 primarily consisted of equipment transfers, costs to consolidate operating and support facilities, retention bonuses, relocation, travel, legal, and other costs. The other restructuring and integration costs in 2016 also included non-cash pension settlement charges due in part to our restructuring activities. The other restructuring and integration costs in 2015 primarily consisted of costs of integrating manufacturing operations, such as relocating inventory on a global basis, retention bonuses, relocation, travel, reserves for inventory obsolescence as a result of product line integration, costs to consolidate operating and support facilities, and other costs. The majority of the other restructuring and integration costs related to these actions were paid as incurred or are payable within the next 60 days.

Of the total severance, restructuring, and acquisition integration costs recognized during 2017, \$32.6 million, \$10.0 million, and \$0.2 million were included in cost of sales; selling, general and administrative expenses; and research and development, respectively. Of the total severance, restructuring, and acquisition integration costs recognized during 2016, \$12.3 million, \$25.7 million, and \$0.8 million were included in cost of sales; selling, general and administrative expenses; and research and development, respectively. Of the total severance and other restructuring costs recognized during 2015, \$9.4 million, \$31.7 million, and \$6.1 million were included in cost of sales; selling, general and administrative expenses; and research and development, respectively.

There were no significant severance accruals balances as of December 31, 2017 or 2016.

Note 14: Long-Term Debt and Other Borrowing Arrangements

The carrying values of our long-term debt and other borrowing arrangements were as follows:

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	December 31,	
	2017	2016
	(In thousands)	
Revolving credit agreement due 2022	\$—	\$—
Senior subordinated notes:		
3.375% Senior subordinated notes due 2027	540,810	—
4.125% Senior subordinated notes due 2026	240,360	209,081
2.875% Senior subordinated notes due 2025	360,540	—
5.25% Senior subordinated notes due 2024	200,000	200,000
5.50% Senior subordinated notes due 2023	242,522	529,146
5.50% Senior subordinated notes due 2022	—	700,000
9.25% Senior subordinated notes due 2019	—	5,221
Total senior subordinated notes	1,584,232	1,643,448
Less unamortized debt issuance costs	(23,484 )	(23,287 )
Long-term debt	\$1,560,748	\$1,620,161

## Revolving Credit Agreement due 2022

On May 16, 2017, we entered into an Amended and Restated Credit Agreement (the Revolver) to amend and restate our prior Revolving Credit Agreement. The Revolver provides a \$400.0 million multi-currency asset-based revolving credit facility. The borrowing base under the Revolver includes eligible accounts receivable; inventory; and property, plant and equipment of certain of our subsidiaries in the U.S., Canada, Germany, and the Netherlands. The maturity date of the Revolver is May 16, 2022. Interest on outstanding borrowings is variable, based upon LIBOR or other similar indices in foreign jurisdictions, plus a spread that ranges from 1.25%-1.75%, depending upon our leverage position. We pay a commitment fee on our available borrowing capacity of 0.25%. In the event we borrow more than 90% of our borrowing base, we are subject to a fixed charge coverage ratio covenant. In 2017, we recognized a \$0.8 million loss on debt extinguishment for unamortized debt issuance costs related to creditors no longer participating in the new Revolver. In connection with executing the Revolver, we also paid \$2.3 million of fees to creditors and third parties that we will amortize over the remaining term of the Revolver. As of December 31, 2017, we had no borrowings outstanding on the Revolver, and our available borrowing capacity was \$348.6 million.

## Senior Subordinated Notes

In July 2017, we completed an offering for €450.0 million (\$509.5 million at issuance) aggregate principal amount of 3.375% senior subordinated notes due 2027 (the 2027 Notes). The carrying value of the 2027 Notes as of December 31, 2017 is \$540.8 million. The 2027 Notes are guaranteed on a senior subordinated basis by our current and future domestic subsidiaries. The 2027 Notes rank equal in right of payment with our senior subordinated notes due 2026, 2025, 2024, and 2023 and with any future subordinated debt, and they are subordinated to all of our senior debt and the senior debt of our subsidiary guarantors, including our Revolver. Interest is payable semiannually on January 15 and July 15 of each year, beginning on January 15, 2018. We paid approximately \$8.8 million of fees associated with the issuance of the 2027 Notes, which will be amortized over the life of the 2027 Notes using the effective interest method. We used the net proceeds from this offering and cash on hand to repurchase all of the \$700.0 million 2022 Notes outstanding for cash consideration of \$722.7 million. In 2017, we recognized a \$29.8 million loss on debt extinguishment including the write-off of unamortized debt issuance costs.

In October 2016, we completed an offering for €200.0 million (\$222.2 million at issuance) aggregate principal amount of 4.125% senior subordinated notes due 2026 (the 2026 Notes). The carrying value of the 2026 Notes as of December 31, 2017 is \$240.4 million. The 2026 Notes are guaranteed on a senior subordinated basis by our current and future domestic subsidiaries. The notes rank equal in right of payment with our senior subordinated notes due 2027, 2025, 2024, and 2023 and with any future subordinated debt, and they are subordinated to all of our senior debt and the senior debt of our subsidiary guarantors, including our Revolver. Interest is payable semiannually on April 15 and October 15 of each year, beginning on April 15, 2017. We paid approximately \$3.9 million of fees associated with the issuance of the 2026 Notes, which are being amortized over the life of the 2026 Notes using the effective interest method.

In September 2017, we completed an offering for €300.0 million (\$357.2 million at issuance) aggregate principal amount of 2.875% senior subordinated notes due 2025 (the 2025 Notes). The carrying value of the 2025 Notes as of December 31, 2017 is \$360.5 million. The 2025 Notes are guaranteed on a senior subordinated basis by our current and future domestic subsidiaries. The 2025 Notes rank equal in right of payment with our senior subordinated notes due 2027, 2026, 2024, and 2023 and with any future subordinated debt, and they are subordinated to all of our senior debt and the senior debt of our subsidiary guarantors, including



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our Revolver. Interest is payable semiannually on March 15 and September 15 of each year, beginning on March 15, 2018. We paid approximately \$6.2 million of fees associated with the issuance of the 2025 Notes, which will be amortized over the life of the 2025 Notes using the effective interest method. We used the net proceeds from this offering to repurchase €300.0 million of the €500.0 million 2023 Notes outstanding at such time. See further discussion below.

We have outstanding \$200 million aggregate principal amount of 5.25% senior subordinated notes due 2024 (the 2024 Notes). The 2024 Notes rank equal in right of payment with our senior subordinated notes due 2027, 2026, 2025, and 2023 and with any future subordinated debt, and they are subordinated to all of our senior debt and the senior debt of our subsidiary guarantors, including our Revolver. Interest is payable on January 15 and July 15 of each year. We paid approximately \$4.2 million of fees associated with the issuance of the 2024 Notes, which are being amortized over the life of the 2024 Notes using the effective interest method. We used the net proceeds from the transaction for general corporate purposes.

We had outstanding €500.0 million aggregate principal amount of 5.5% senior subordinated notes due 2023 (the 2023 Notes). In September 2017, we repurchased €300.0 million of the €500.0 million 2023 Notes outstanding for cash consideration of \$377.9 million and recognized a \$21.8 million loss on debt extinguishment including the write-off of unamortized debt issuance costs. The carrying value of the 2023 Notes as of December 31, 2017 is \$242.5 million.

The 2023 Notes are guaranteed on a senior subordinated basis by certain of our subsidiaries. The notes rank equal in right of payment with our senior subordinated notes due 2027, 2026, 2025, and 2024 and with any future subordinated debt, and they are subordinated to all of our senior debt and the senior debt of our subsidiary guarantors, including our Revolver. Interest is payable semiannually on April 15 and October 15 of each year.

We had outstanding \$5.2 million aggregate principal amount of 9.25% senior subordinated notes due 2019 (the 2019 Notes). On June 15, 2017, we repaid all of the 2019 Notes outstanding, plus accrued interest, and recognized an immaterial loss on debt extinguishment related to unamortized debt issuance costs.

The senior subordinated notes due 2023, 2024, 2025, 2026 and 2027 are redeemable currently, after April 15, 2018, July 15, 2019, September 15, 2020, October 15, 2021 and July 15, 2022, respectively, at the following redemption prices as a percentage of the face amount of the notes:

## Senior Subordinated Notes due

2023	2024	2025	2026	2027					
Year	Percentage	Year	Percentage	Year	Percentage	Year	Percentage	Year	Percentage
2018	102.750 %	2019	102.625 %	2020	101.438 %	2021	102.063 %	2022	101.688 %
2019	101.833 %	2020	101.750 %	2021	100.719 %	2022	101.375 %	2023	101.125 %
2020	100.917 %	2021	100.875 %	2022 and thereafter	100.000 %	2023	100.688 %	2024	100.563 %
2021 and thereafter	100.000 %	2022 and thereafter	100.000 %			2024 and thereafter	100.000 %	2025 and thereafter	100.000 %

## Fair Value of Long-Term Debt

The fair value of our senior subordinated notes as of December 31, 2017 was approximately \$1,619.3 million based on quoted prices of the debt instruments in inactive markets (Level 2 valuation). This amount represents the fair values of our senior subordinated notes with a carrying value of \$1,584.2 million as of December 31, 2017.

## Maturities

Maturities on outstanding long-term debt and other borrowings during each of the five years subsequent to December 31, 2017 are as follows (in thousands):

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2018	\$—
2019	—
2020	—
2021	—
2022	—
Thereafter	1,584,232
	\$1,584,232

## Note 15: Net Investment Hedge

All of our euro denominated notes were issued by Belden Inc., a USD functional currency ledger. As of December 31, 2017, all of our outstanding foreign denominated debt is designated as a net investment hedge on the foreign currency risk of our net investment in our euro foreign operations. The objective of the hedge is to protect the net investment in the foreign operation against adverse changes in exchange rates. The transaction gain or loss is reported in the cumulative translation adjustment section of other comprehensive income. The amount of the cumulative translation adjustment associated with these notes at December 31, 2017 and 2016 was a loss of \$56.2 million and a gain of \$13.0 million, respectively.

## Note 16: Income Taxes

	Years ended December 31,		
	2017	2016	2015
	(In thousands)		
Income (loss) from continuing operations before taxes:			
United States operations	\$2,177	\$ (25,615 )	\$(6,924 )
Foreign operations	97,171	152,076	46,864
Income from continuing operations before taxes	\$99,348	\$ 126,461	\$ 39,940
Income tax expense (benefit):			
Currently payable			
United States federal	\$—	\$ 2,981	\$—
United States state and local	2,392	(1,038 )	1,789
Foreign	28,201	26,906	17,317
	30,593	28,849	19,106
Deferred			
United States federal	(11,028 )	(27,677 )	(23,709 )
United States state and local	(8,758 )	(3,139 )	(2,257 )
Foreign	(4,312 )	782	(19,708 )
	(24,098 )	(30,034 )	(45,674 )
Income tax expense (benefit)	\$6,495	\$ (1,185 )	\$(26,568)

In addition to the above income tax expense (benefit) associated with continuing operations, we also recorded income tax expense (benefit) associated with discontinued operations \$0.2 million in 2015.

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	Years Ended December 31,		
	2017	2016	2015
Effective income tax rate reconciliation from continuing operations:			
United States federal statutory rate	35.0 %	35.0 %	35.0 %
State and local income taxes	0.8 %	(0.9 )%	(2.6 )%
Impact of change in tax contingencies	2.2 %	2.4 %	(4.2 )%
Foreign income tax rate differences	(13.1 )%	(14.0 )%	(8.4 )%
Impact of change in deferred tax asset valuation allowance	1.5 %	(7.3 )%	(28.6 )%
Impact of change in legal entity tax status	— %	(5.5 )%	— %
Impact of non-taxable translation gain	(27.3 )%	— %	— %
Impact of non-taxable interest income	(5.5 )%	(4.9 )%	(15.6 )%
Domestic permanent differences and tax credits	(15.7 )%	(5.7 )%	(42.1 )%
Impact of tax reform	28.6 %	— %	— %
	6.5 %	(0.9 )%	(66.5 )%

On December 22, 2017, the “Tax Cuts and Jobs Act” (the “Act”) was signed into law, making significant changes to the U.S. Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial tax system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. The Company has calculated its best estimate of the impact of the Act in its year end income tax provision in accordance with its understanding of the Act and guidance available as of the date of this filing and as a result has recorded \$28.4 million as an additional income tax expense in the fourth quarter of 2017, the period in which the legislation was enacted. This provisional income tax expense is comprised of a \$36.0 million tax benefit for the remeasurement of deferred tax assets and liabilities to the 21% rate at which they are expected to reverse, offset with a one-time tax expense on deemed repatriation of \$29.1 million and a valuation allowance of \$35.3 million recorded against foreign tax credit carryovers that we no longer expect to be able to realize based upon the new tax law. The Company continues to analyze its provisional estimate regarding the non-deductibility of certain covered employee compensation associated with amendments to IRC section 162(m). As of the date of this filing, the Company reasonably believes that the impact of these changes is immaterial.

On December 22, 2017, Staff Accounting Bulletin No. 118 (“SAB 118”) was issued to address the application of US GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Act. In accordance with SAB 118, the Company has determined that the \$36.0 million deferred tax benefit recorded in connection with the remeasurement of certain deferred tax assets and liabilities, the \$29.1 million of current tax expense recorded in connection with the transition tax on the mandatory deemed repatriation of foreign earnings, the \$35.3 million deferred tax expense recorded in connection with a valuation allowance on foreign tax credits, and the \$0.0 million deferred tax expense recorded in connection with covered employee compensation were provisional amounts and reasonable estimates at December 31, 2017. Additional work is necessary to do a more detailed analysis of all provisional amounts associated with the Act referenced above as a result of pending issuance of Notices and Regulations related to the Act, ongoing legal analysis of compensation plans and finalization of foreign earnings and profits for 2017. Any subsequent adjustment to these amounts will be recorded to tax expense in the quarter of 2018 when the analysis is complete.

An additional significant difference between the U.S. federal statutory tax rate and our effective tax rate was the impact of domestic permanent differences and tax credits. We recognized a total income tax benefit from domestic permanent differences and tax credits of \$48.2 million in 2017. Of this income tax benefit, \$27.1 million stems from a non-taxable translation gain associated with a debt instrument that is treated as a loan for U.S. GAAP purposes but as equity for tax purposes and \$19.8 million stems from being able to recognize a significant balance of foreign tax

credits related to one of our foreign jurisdictions as a result of implementing a tax planning strategy, net of the U.S. income tax consequences.

An additional significant difference between the U.S. federal statutory tax rate and our effective tax rate was the impact of foreign tax rate differences. The statutory tax rates associated with our foreign earnings are generally lower than the 2017 statutory U.S. tax rate of 35%. The foreign tax rate differences are most significant in Germany, Canada, and the Netherlands, which have statutory tax rates of approximately 28%, 26%, and 25%, respectively. Foreign tax rate differences resulted in an income tax benefit of \$13.0 million, \$17.7 million, and \$3.4 million in 2017, 2016, and 2015, respectively. Additionally, in 2017 and 2016, our income tax expense was reduced by \$3.5 million and \$2.9 million, respectively, due to a tax holiday for our operations in St. Kitts. The tax holiday in St. Kitts is scheduled to expire in 2022.

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	December 31,	
	2017	2016
	(In thousands)	
Components of deferred income tax balances:		
Deferred income tax liabilities:		
Plant, equipment, and intangibles	\$(120,171)	\$(179,229)
Deferred income tax assets:		
Postretirement, pensions, and stock compensation	28,736	35,500
Reserves and accruals	29,297	22,795
Net operating loss and tax credit carryforwards	228,815	245,135
Valuation allowances	(151,841 )	(104,771 )
	135,007	198,659
Net deferred income tax asset	\$14,836	\$19,430

The decrease in deferred income tax liabilities during 2017 is primarily due to the \$36.0 million deferred tax benefit recorded in connection with the remeasurement of certain deferred tax assets and liabilities associated with the Act, as discussed above. The increase in our deferred tax valuation allowance is primarily due to the Company's limited ability to utilize foreign tax credits before expiration as a result of the Act, as discussed above.

As of December 31, 2017, we had \$538.9 million of net operating loss carryforwards and \$97.1 million of tax credit carryforwards. Unless otherwise utilized, net operating loss carryforwards will expire upon the filing of the tax returns for the following respective years: \$1.0 million in 2017, \$0.2 million in 2018, \$7.9 million in 2019, \$33.7 million between 2020 and 2022, and \$143.4 million between 2023 and 2038. Net operating losses with an indefinite carryforward period total \$352.7 million. Of the \$538.9 million in net operating loss carryforwards, we have determined, based on the weight of all available evidence, both positive and negative, that we will utilize \$158.6 million of these net operating loss carryforwards within their respective expiration periods. A valuation allowance has been recorded on the remaining portion of the net operating loss carryforwards.

Unless otherwise utilized, tax credit carryforwards of \$97.1 million will expire as follows: \$0.1 million in 2018, \$0.1 million in 2019, \$4.7 million between 2020 and 2022, and \$85.6 million between 2023 and 2038. Tax credit carryforwards with an indefinite carryforward period total \$6.6 million. We have determined, based on the weight of all available evidence, both positive and negative, that we will utilize \$58.4 million of these tax credit carryforwards within their respective expiration periods. A valuation allowance has been recorded on the remaining portion of the tax credit carryforwards.

The following tables summarize our net operating loss carryforwards and tax credit carryforwards as of December 31, 2017 by jurisdiction:

	Net Operating Loss Carryforwards (In thousands)
France	\$ 266,509
United States - various states	132,213
Luxembourg	25,034
Japan	22,245
Australia	16,433
Germany	14,127
Netherlands	13,063
Other	49,256

Total \$ 538,880

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	Tax Credit Carryforwards
	(In thousands)
United States	\$ 74,613
Canada	22,459
Total	\$ 97,072

In 2017, we recognized a net \$1.9 million decrease to reserves for uncertain tax positions. A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

	2017	2016
	(In thousands)	
Balance at beginning of year	\$10,474	\$7,293
Additions based on tax positions related to the current year	981	507
Additions for tax positions of prior years	2,549	2,675
Reductions for tax positions of prior years - Settlement	(5,425 )	—
Reduction for tax positions of prior years - Statute of limitations	—	(1 )
Balance at end of year	\$8,579	\$10,474

The additions for tax positions of prior years relates to income tax audits of the U.S. and a foreign jurisdiction. The balance of \$8.6 million at December 31, 2017, reflects tax positions that, if recognized, would impact our effective tax rate.

As of December 31, 2017, we believe it is reasonably possible that \$1.1 million of unrecognized tax benefits will change within the next twelve months primarily attributable to the expected completion of tax audits in the U.S. and foreign jurisdictions.

Our practice is to recognize interest and penalties related to uncertain tax positions in interest expense and operating expenses, respectively. During 2017, 2016, and 2015, we recognized reductions of interest expense of \$0.0 million, \$(0.2) million, and \$0.0 million, respectively, related to uncertain tax positions. We have approximately \$0.0 million and \$1.2 million accrued for the payment of interest and penalties as of December 31, 2017 and 2016, respectively.

Our federal tax return for the tax years 2013 and later remain subject to examination by the Internal Revenue Service. Our state and foreign income tax returns for the tax years 2011 and later remain subject to examination by various state and foreign tax authorities.

#### Note 17: Pension and Other Postretirement Benefits

We sponsor defined benefit pension plans and defined contribution plans that cover substantially all employees in Canada, the Netherlands, the United Kingdom, the U.S., and certain employees in Germany, France, and Japan. We closed the U.S. defined benefit pension plan to new entrants effective January 1, 2010. Employees who were not active participants in the U.S. defined benefit pension plan on December 31, 2009, are not eligible to participate in the plan. During 2017, we sold our MCS business and its associated pension liabilities (see Note 4). Annual contributions to retirement plans equal or exceed the minimum funding requirements of applicable local regulations. The assets of the funded pension plans we sponsor are maintained in various trusts and are invested primarily in equity and fixed income securities.

Benefits provided to employees under defined contribution plans include cash contributions by the Company based on either hours worked by the employee or a percentage of the employee's compensation. Defined contribution expense for 2017, 2016, and 2015 was \$13.9 million, \$13.5 million, and \$12.6 million, respectively.

We sponsor unfunded postretirement medical and life insurance benefit plans for certain of our employees in Canada and the U.S. The medical benefit portion of the U.S. plan is only for employees who retired prior to 1989 as well as certain other employees who were near retirement and elected to receive certain benefits.

The following tables provide a reconciliation of the changes in the plans' benefit obligations and fair value of assets as well as a statement of the funded status and balance sheet reporting for these plans.



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Years Ended December 31,	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
	(In thousands)			
Change in benefit obligation:				
Benefit obligation, beginning of year	\$(256,481)	\$(275,205)	\$(32,038)	\$(32,313)
Service cost	(4,978 )	(4,981 )	(49 )	(46 )
Interest cost	(7,671 )	(8,909 )	(1,139 )	(1,259 )
Participant contributions	(91 )	(106 )	(7 )	(7 )
Actuarial gain (loss)	(3,291 )	(16,250 )	3,370	578
Divestiture	794	—	—	—
Settlements	49	29,256	—	—
Curtailments	—	227	—	—
Foreign currency exchange rate changes	(14,299 )	10,723	(2,022 )	(580 )
Benefits paid	13,943	8,764	1,552	1,589
Benefit obligation, end of year	\$(272,025)	\$(256,481)	\$(30,333)	\$(32,038)

Years Ended December 31,	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
	(In thousands)			
Change in plan assets:				
Fair value of plan assets, beginning of year	\$182,370	\$204,372	\$ —	\$ —
Actual return on plan assets	18,746	18,832	—	—
Employer contributions	4,425	5,698	1,545	1,582
Plan participant contributions	91	106	7	7
Settlements	—	(28,841 )	—	—
Foreign currency exchange rate changes	6,467	(9,033 )	—	—
Benefits paid	(13,943 )	(8,764 )	(1,552)	(1,589)
Fair value of plan assets, end of year	\$198,156	\$182,370	\$ —	\$ —
Funded status, end of year	\$(73,869)	\$(74,111)	\$(30,333)	\$(32,038)
Amounts recognized in the balance sheets:				
Prepaid benefit cost	\$3,174	\$3,148	\$—	\$—
Accrued benefit liability (current)	(3,736 )	(3,022 )	(1,555 )	(1,778 )
Liabilities held for sale	—	(447 )	—	—
Accrued benefit liability (noncurrent)	(73,307 )	(73,790 )	(28,778 )	(30,260 )
Net funded status	\$(73,869)	\$(74,111)	\$(30,333)	\$(32,038)

The accumulated benefit obligation for all defined benefit pension plans was \$269.2 million and \$253.9 million at December 31, 2017 and 2016, respectively.

The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for the pension plans with an accumulated benefit obligation in excess of plan assets were \$215.6 million, \$212.7 million, and \$138.5 million, respectively, as of December 31, 2017, and were \$205.8 million, \$203.1 million, and \$128.5 million, respectively, as of December 31, 2016. The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for pension plans with an accumulated benefit obligation less than plan assets were \$56.5 million, \$56.5 million, and \$59.6 million, respectively, as of December 31, 2017 and were \$50.7 million, \$50.7 million, and \$53.9 million, respectively, as of December 31, 2016.

The following table provides the components of net periodic benefit costs for the plans.



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Years Ended December 31,	Pension Benefits			Other Benefits		
	2017	2016	2015	2017	2016	2015
	(In thousands)					
Components of net periodic benefit cost:						
Service cost	\$4,978	\$4,981	\$5,505	\$49	\$46	\$52
Interest cost	7,671	8,909	9,116	1,139	1,259	1,301
Expected return on plan assets	(10,644)	(12,013)	(12,518)	—	—	—
Amortization of prior service credit	(41)	(42)	(44)	—	(42)	(87)
Curtailement gain	—	(227)	(128)	—	—	—
Settlement loss (gain)	(8)	7,630	128	—	—	—
Net loss recognition	2,597	2,670	5,082	—	86	328
Net periodic benefit cost	\$4,553	\$11,908	\$7,141	\$1,188	\$1,349	\$1,594

During 2016 and 2015, we recorded settlement losses totaling \$7.6 million and \$0.1 million, respectively. These settlement losses were the result of lump-sum payments to participants that exceeded the sum of the pension plans' respective annual service cost and interest cost amounts.

The following table presents the assumptions used in determining the benefit obligations and the net periodic benefit cost amounts.

Years Ended December 31,	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
Weighted average assumptions for benefit obligations at year end:				
Discount rate	2.8 %	3.0 %	3.3 %	3.7 %
Salary increase	3.6 %	3.3 %	N/A	N/A
Weighted average assumptions for net periodic cost for the year:				
Discount rate	3.1 %	3.6 %	3.7 %	4.0 %
Salary increase	3.6 %	3.5 %	N/A	N/A
Expected return on assets	6.0 %	6.2 %	N/A	N/A
Assumed health care cost trend rates:				
Health care cost trend rate assumed for next year	N/A	N/A	6.2 %	6.2 %
Rate that the cost trend rate gradually declines to	N/A	N/A	5.0 %	5.0 %
Year that the rate reaches the rate it is assumed to remain at	N/A	N/A	2024	2023

A one percentage-point change in the assumed health care cost trend rates would have the following effects on 2017 expense and year-end liabilities.

	1% Increase	1% Decrease
	(In thousands)	
Effect on total of service and interest cost components	\$127	\$(103)
Effect on postretirement benefit obligation	2,306	(1,943)

Plan assets are invested using a total return investment approach whereby a mix of equity securities and fixed income securities are used to preserve asset values, diversify risk, and achieve our target investment return benchmark.

Investment strategies and asset allocations are based on consideration of the plan liabilities, the plan's funded status, and our financial condition. Investment performance and asset allocation are measured and monitored on an ongoing basis.



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Plan assets are managed in a balanced portfolio comprised of two major components: an equity portion and a fixed income portion. The expected role of equity investments is to maximize the long-term real growth of assets, while the role of fixed income investments is to generate current income, provide for more stable periodic returns, and provide some protection against a prolonged decline in the market value of equity investments.

Absent regulatory or statutory limitations, the target asset allocation for the investment of the assets for our ongoing pension plans is 30-40% in fixed income securities and 60-70% in equity securities and for our pension plans where the majority of the participants are in payment or terminated vested status is 75-80% in fixed income securities and 20-25% in equity securities. Equity securities include U.S. and international equity, primarily invested through investment funds. Fixed income securities include government securities and investment grade corporate bonds, primarily invested through investment funds and group insurance contracts. We develop our expected long-term rate of return assumptions based on the historical rates of returns for equity and fixed income securities of the type in which our plans invest.

The expected long-term rate of return on plan assets reflects the average rate of earnings expected on the invested assets and future assets to be invested to provide for the benefits included in the projected benefit obligation. We use historic plan asset returns combined with current market conditions to estimate the rate of return. The expected rate of return on plan assets is a long-term assumption based on an analysis of historical and forward looking returns considering the plan's actual and target asset mix.

The following table presents the fair values of the pension plan assets by asset category.

Asset Category:	December 31, 2017				December 31, 2016			
	Fair Market Value at December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Market Value at December 31, 2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(In thousands)				(In thousands)			
Equity securities(a)								
Large-cap fund	\$75,165	\$ —	\$ —	\$ —	—\$65,495	\$ —	\$ —	\$ —
Mid-cap fund	13,046	—	—	—	11,419	—	—	—
Small-cap fund	18,785	—	—	—	17,184	—	—	—
Debt securities(b)								
Government bond fund	28,429	—	—	—	26,151	—	—	—
Corporate bond fund	24,421	—	—	—	20,971	—	—	—
Fixed income fund(c)	38,072	—	38,072	—	40,958	—	40,958	—
Cash & equivalents	238	238	—	—	192	192	—	—
Total	\$198,156	\$ 238	\$ 38,072	\$ —	—\$182,370	\$ 192	\$ 40,958	\$ —

This category includes investments in actively managed and indexed investment funds that invest in a diversified pool of equity securities of companies located in the U.S., Canada, Western Europe and other developed countries (a) throughout the world. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund. Funds valued using the net asset value method are not included in the fair value hierarchy.

(b)

This category includes investments in investment funds that invest in U.S. treasuries; other national, state and local government bonds; and corporate bonds of highly rated companies from diversified industries. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund. Funds valued using the net asset value method are not included in the fair value hierarchy.  
(c) This category includes guaranteed insurance contracts.

The plans do not invest in individual securities. All investments are through well diversified investment funds. As a result, there are no significant concentrations of risk within the plan assets.

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The following table reflects the benefits as of December 31, 2017 expected to be paid in each of the next five years and in the aggregate for the five years thereafter from our pension and other postretirement plans. Because our other postretirement plans are unfunded, the anticipated benefits with respect to these plans will come from our own assets. Because our pension plans are primarily funded plans, the anticipated benefits with respect to these plans will come primarily from the trusts established for these plans.

	Pension Plans (In thousands)	Other Plans (In thousands)
2018	\$16,562	\$1,580
2019	16,923	1,568
2020	17,937	1,562
2021	17,688	1,557
2022	15,787	1,553
2023-2027	83,382	7,753
Total	\$168,279	\$15,573

We anticipate contributing \$4.6 million and \$1.6 million to our pension and other postretirement plans, respectively, during 2018.

The pre-tax amounts in accumulated other comprehensive loss that have not yet been recognized as components of net periodic benefit cost at December 31, 2017, the changes in these amounts during the year ended December 31, 2017, and the expected amortization of these amounts as components of net periodic benefit cost for the year ended December 31, 2017, are as follows.

	Pension Benefits (In thousands)	Other Benefits (In thousands)
Components of accumulated other comprehensive loss:		
Net actuarial loss (gain)	\$44,359	\$(1,545)
Net prior service cost	11	—
	\$44,370	\$(1,545)

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	Pension Benefits (In thousands)	Other Benefits (In thousands)
Changes in accumulated other comprehensive loss:		
Net actuarial loss, beginning of year	\$49,260	\$1,842
Amortization of actuarial loss	(2,597 )	—
Actuarial loss (gain)	3,291	(3,370 )
Asset gain	(8,102 )	—
Curtailed gain recognized	—	—
Settlement gain recognized	8	—
Divestiture	(180 )	—
Currency impact	2,679	(17 )
Net actuarial loss (gain), end of year	\$44,359	\$(1,545)
Prior service credit, beginning of year	\$(44 )	\$—
Amortization of prior service credit	41	—
Divestiture	(10 )	—
Currency impact	24	—
Prior service cost, end of year	\$11	\$—
	Pension Benefits (In thousands)	Other Benefits (In thousands)
Expected 2018 amortization:		
Amortization of prior service credit	\$(41 )	\$—
Amortization of actuarial loss	2,758	—
	\$2,717	\$—

## Note 18: Comprehensive Income and Accumulated Other Comprehensive Income (Loss)

The accumulated balances related to each component of other comprehensive income (loss), net of tax, are as follows:

	Foreign Currency Translation Component	Pension and Other Postretirement Benefit Plans (In thousands)	Accumulated Other Comprehensive Income (Loss)
Balance at December 31, 2015	\$ (23,411 )	\$ (35,576 )	\$ (58,987 )
Other comprehensive gain (loss) loss attributable to Belden before reclassifications	18,750	(5,166 )	13,584
Amounts reclassified from accumulated other comprehensive loss	—	6,336	6,336
Net current period other comprehensive gain attributable to Belden	18,750	1,170	19,920
Balance at December 31, 2016	(4,661 )	(34,406 )	(39,067 )
Other comprehensive gain (loss) attributable to Belden before reclassifications	(65,030 )	4,504	(60,526 )
Amounts reclassified from accumulated other comprehensive loss	—	1,567	1,567
Net current period other comprehensive gain (loss) attributable to Belden	(65,030 )	6,071	(58,959 )
Balance at December 31, 2017	\$ (69,691 )	\$ (28,335 )	\$ (98,026 )

The following table summarizes the effects of reclassifications from accumulated other comprehensive income (loss):



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	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)	Affected Line Item in the Consolidated Statements of Operations and Comprehensive Income
	(In thousands)	
Amortization of pension and other postretirement benefit plan items:		
Settlement gain	\$ (8 )	(1 )
Actuarial losses	2,597	(1 )
Prior service credit	(41 )	(1 )
Total before tax	2,548	
Tax benefit	(981 )	
Total net of tax	\$ 1,567	

(1) The amortization of these accumulated other comprehensive income (loss) components are included in the computation of net periodic benefit costs (see Note 16).

## Note 19: Share-Based Compensation

Compensation cost charged against income, primarily selling, general and administrative expense, and the income tax benefit recognized for our share-based compensation arrangements is included below:

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Total share-based compensation cost	\$ 14,647	\$ 18,178	\$ 17,745
Income tax benefit	5,566	7,069	6,867

We currently have outstanding stock appreciation rights (SARs), restricted stock units with service vesting conditions, restricted stock units with performance vesting conditions, and restricted stock units with market conditions. We grant SARs with an exercise price equal to the closing market price of our common stock on the grant date. Generally, SARs may be converted into shares of our common stock in equal amounts on each of the first three anniversaries of the grant date and expire 10 years from the grant date. Certain awards provide for accelerated vesting in certain circumstances, including following a change in control of the Company. Restricted stock units with service conditions generally vest 3-5 years from the grant date. Restricted stock units issued based on the attainment of the performance conditions generally vest on the second or third anniversary of their grant date. Restricted stock units issued based on the attainment of market conditions generally vest on the third anniversary of their grant date.

We recognize compensation cost for all awards based on their fair values. The fair values for SARs are estimated on the grant date using the Black-Scholes-Merton option-pricing formula which incorporates the assumptions noted in the following table. Expected volatility is based on historical volatility, and expected term is based on historical exercise patterns of SAR holders. The fair value of restricted stock units with service vesting conditions or performance vesting conditions is the closing market price of our common stock on the date of grant. We estimate the fair value of certain restricted stock units with market conditions using a Monte Carlo simulation valuation model with the assistance of a third party valuation firm. Compensation costs for awards with service conditions are amortized to expense using the straight-line method. Compensation costs for awards with performance conditions and graded vesting are amortized to expense using the graded attribution method.



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	Years Ended December 31,		
	2017	2016	2015
	(In thousands, except weighted average fair value and assumptions)		
Weighted-average fair value of SARs and options granted	\$ 27.31	\$ 18.79	\$ 31.22
Total intrinsic value of SARs converted and options exercised	7,156	9,678	14,697
Cash received for options exercised	—	—	30
Tax benefit related to share-based compensation	967	1,171	5,050
Weighted-average fair value of restricted stock shares and units granted	79.96	54.52	96.52
Total fair value of restricted stock shares and units vested	10,355	8,171	7,696
Expected volatility	36.89	% 37.47	% 35.66
Expected term (in years)	5.6	5.7	5.7
Risk-free rate	2.01	% 1.32	% 1.59
Dividend yield	0.27	% 0.38	% 0.22

	SARs and Stock Options			Restricted Shares and Units		
	Number	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value	Number	Weighted-Average Grant-Date Fair Value
	(In thousands, except exercise prices, fair values, and contractual terms)					
Outstanding at January 1, 2017	1,124	\$ 56.79			454	\$ 69.55
Granted	254	74.91			222	79.96
Exercised or converted	(210 )	44.08			(145 )	71.27
Forfeited or expired	(36 )	71.02			(35 )	75.56
Outstanding at December 31, 2017	1,132	\$ 62.75	6.9	\$ 16,327	496	\$ 78.03
Vested or expected to vest at December 31, 2017	1,118	\$ 62.65	6.8	\$ 16,234		
Exercisable or convertible at December 31, 2017	623	58.57	5.6	11,585		

At December 31, 2017, the total unrecognized compensation cost related to all nonvested awards was \$21.1 million. That cost is expected to be recognized over a weighted-average period of 1.8 years.

Historically, we have issued treasury shares, if available, to satisfy award conversions and exercises.

#### Note 20: Preferred Stock

On July 26, 2016, we issued 5.2 million depositary shares, each of which represents 1/100th interest in a share of 6.75% Series B Mandatory Convertible Preferred Stock (the Preferred Stock), for an offering price of \$100 per depositary share. Holders of the Preferred Stock may elect to convert their shares into common stock at any time prior to the mandatory conversion date. Unless earlier converted, each share of Preferred Stock will automatically convert into common stock on or around July 15, 2019 into between 120.46 and 132.50 shares of Belden common stock, subject to customary anti-dilution adjustments. This represents a range of 6.2 million to 6.9 million shares of Belden common stock to be issued upon conversion. The number of shares of Belden common stock issuable upon the mandatory conversion of the Preferred Stock will be determined based upon the volume-weighted average price of Belden's common stock over the 20 day trading period beginning on, and including, the 22nd scheduled trading day prior to July 15, 2019. The net proceeds from this offering were approximately \$501 million. The net proceeds are for general corporate purposes. With respect to dividend and liquidation rights, the Preferred Stock ranks senior to our common stock and junior to all of our existing and future indebtedness.

#### Note 21: Stockholder Rights Plan

Under our Stockholder Rights Plan, each share of our common stock generally has “attached” to it one preferred share purchase right. Each right, when exercisable, entitles the holder to purchase 1/1000th of a share of our Junior Participating Preferred Stock Series A at a purchase price of \$325.00 (subject to adjustment). Each 1/1000th of a share of Series A Junior Participating Preferred

Stock will be substantially equivalent to one share of our common stock and will be entitled to one vote, voting together with the shares of common stock.

The rights will become exercisable only if, without the prior approval of the Board of Directors, a person or group of persons acquires or announces the intention to acquire 20% or more of our common stock. If we are acquired through a merger or other business combination transaction, each right will entitle the holder to purchase \$300.00 worth of the surviving company's common stock for \$150.00 (subject to adjustment). In addition, if a person or group of persons acquires 20% or more of our common stock, each right not owned by the 20% or greater shareholder would permit the holder to purchase \$300.00 worth of our common stock for \$150.00 (subject to adjustment). The rights are redeemable, at our option, at \$0.01 per right at any time prior to an announcement of a beneficial owner of 20% or more of our common stock then outstanding. The rights expire on December 10, 2019.

#### Note 22: Share Repurchases

On May 25, 2017, our Board of Directors authorized a share repurchase program, which allows us to purchase up to \$200.0 million of our common stock through open market repurchases, negotiated transactions, or other means, in accordance with applicable securities laws and other restrictions. This program is funded with cash on hand and cash flows from operating activities. The program does not have an expiration date and may be suspended at any time at the discretion of the Company. During 2017, we repurchased 0.3 million shares of our common stock under the program for an aggregate cost of \$25.0 million and an average price per share of \$79.75.

#### Note 23: Operating Leases

Operating lease expense incurred primarily for manufacturing and office space, machinery, and equipment was \$38.6 million, \$40.3 million, and \$40.6 million in 2017, 2016, and 2015, respectively.

Minimum annual lease payments for noncancelable operating leases in effect at December 31, 2017 are as follows (in thousands):

2018	\$22,440
2019	18,006
2020	13,787
2021	11,001
2022	8,561
Thereafter	23,494
	\$97,289

Certain of our operating leases include step rent provisions and rent escalations. We include these step rent provisions and rent escalations in our minimum lease payments obligations and recognize them as a component of rental expense on a straight-line basis over the minimum lease term.

#### Note 24: Market Concentrations and Risks

##### Concentrations of Credit

We sell our products to many customers in several markets across multiple geographic areas. The ten largest customers, of which six are distributors, constitute in aggregate approximately 35%, 33%, and 33% of revenues in 2017, 2016, and 2015, respectively.

##### Unconditional Commodity Purchase Obligations

At December 31, 2017, we were committed to purchase approximately 2.3 million pounds of copper at an aggregate fixed cost of \$7.0 million. At December 31, 2017, this fixed cost was \$0.5 million less than the market cost that would be incurred on a spot purchase of the same amount of copper. The aggregate market cost was based on the current market price of copper obtained from the New York Mercantile Exchange.

##### Labor

Approximately 21% of our labor force is covered by collective bargaining agreements at various locations around the world. Approximately 16% of our labor force is covered by collective bargaining agreements that we expect to renegotiate during 2018.

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## Fair Value of Financial Instruments

Our financial instruments consist primarily of cash and cash equivalents, trade receivables, trade payables, and debt instruments. The carrying amounts of cash and cash equivalents, trade receivables, and trade payables at December 31, 2017 are considered representative of their respective fair values. The fair value of our senior subordinated notes at December 31, 2017 and 2016 was approximately \$1,619.3 million and \$1,693.2 million, respectively, based on quoted prices of the debt instruments in inactive markets (Level 2 valuation). This amount represents the fair values of our senior subordinated notes with a carrying value of \$1,584.2 million and \$1,643.4 million as of December 31, 2017 and 2016, respectively.

## Note 25: Contingent Liabilities

## General

Various claims are asserted against us in the ordinary course of business including those pertaining to income tax examinations, product liability, customer, employment, vendor, and patent matters. Based on facts currently available, management believes that the disposition of the claims that are pending or asserted will not have a materially adverse effect on our financial position, operating results, or cash flow.

## Letters of Credit, Guarantees and Bonds

At December 31, 2017, we were party to unused standby letters of credit, surety bonds, and bank guarantees totaling \$7.5 million, \$2.3 million, and \$1.7 million, respectively. These commitments are generally issued to secure obligations we have for a variety of commercial reasons, such as workers compensation self-insurance programs in several states and the importation and exportation of product.

## Note 26: Supplemental Cash Flow Information

Supplemental cash flow information is as follows:

	Years Ended December 31,		
	2017	2016	2015
	(In thousands)		
Income tax refunds received	\$5,031	\$ 3,838	\$4,068
Income taxes paid	(35,893)	(26,587	) (24,960)
Interest paid, net of amount capitalized	(79,047)	(87,076	) (91,496)

## Note 27: Quarterly Operating Results (Unaudited)

2017	1st	2nd	3rd	4th	Year
	(In thousands, except days and per share amounts)				
Number of days in quarter	92	91	91	91	365
Revenues	\$551,381	\$610,633	\$621,745	\$604,884	\$2,388,643
Gross profit	222,114	242,509	239,824	229,592	934,039
Operating income	51,337	62,481	60,791	60,081	234,690
Net income	25,581	35,891	945	30,436	92,853
Less: Net loss attributable to noncontrolling interest	(106	) (86	) (82	) (83	) (357
Net income attributable to Belden	25,687	35,977	1,027	30,519	93,210
Less: Preferred stock dividends	8,733	8,733	8,732	8,733	34,931
Net income (loss) attributable to Belden common stockholders	16,954	27,244	(7,705	) 21,786	58,279
Basic income (loss) per share attributable to Belden common stockholders:	\$0.40	\$0.64	\$(0.18	) \$0.52	\$1.38
Diluted income (loss) per share attributable to Belden stockholders:	\$0.40	\$0.64	\$(0.18	) \$0.51	\$1.37



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During the financial closing process for the fourth quarter of 2017, we determined that certain consolidated financial statement amounts were not recorded correctly in prior interim periods of 2017. We have evaluated these errors and concluded that they were not material to any of our previously issued interim financial statements and did not require restatement of the quarters. The errors primarily related to recognizing revenue prior to satisfying all of the delivery criteria in one business within our Broadcast segment. The impact of the errors in the first, second, and third quarters of 2017 was an overstatement of revenues of \$6.1 million, \$10.4 million, and \$11.8 million, respectively, and an overstatement of net income of \$3.0 million, \$1.3 million, and \$2.6 million, respectively. The impact of the errors in the fourth quarter of 2017 was an understatement of revenues of \$27.8 million and an understatement of net income of \$5.2 million. All of the errors have been corrected as of December 31, 2017.

Included in the first, second, third, and fourth quarters of 2017 are severance, restructuring, and integration costs of \$6.6 million, \$9.6 million, \$16.7 million, and \$9.9 million, respectively.

2016	1st	2nd	3rd	4th	Year
	(In thousands, except days and per share amounts)				
Number of days in quarter	94	91	91	90	366
Revenues	\$541,497	\$601,631	\$601,109	\$612,435	\$2,356,672
Gross profit	225,035	248,213	245,962	261,784	980,994
Operating income	40,964	62,241	61,980	58,668	223,853
Net Income	16,358	41,933	36,072	33,283	127,646
Less: Net loss attributable to noncontrolling interest	(99	) (99	) (88	) (71	) (357
Net income attributable to Belden	16,457	42,032	36,160	33,354	128,003
Less: Preferred stock dividends	—	—	6,695	8,733	15,428
Net income attributable to Belden common stockholders	16,457	42,032	29,465	24,621	112,575
Basic income per share attributable to Belden common stockholders:	\$0.39	\$1.00	\$0.70	\$0.58	\$2.67
Diluted income per share attributable to Belden stockholders:	\$0.39	\$0.99	\$0.69	\$0.58	\$2.65

Included in the first, second, third, and fourth quarters of 2016 are severance, restructuring, and integration costs of \$8.4 million, \$5.9 million, \$12.8 million, and \$11.7 million, respectively. Included in the fourth quarter of 2016 are royalty revenues of \$10.3 million from a patent settlement during the quarter.

## Note 28: Subsequent Events

On February 8, 2018, we acquired a company for a purchase price of \$75.8 million, plus we assumed debt of \$18.4 million. The acquisition includes a potential earn-out for which we have not yet estimated a fair value. This acquisition was funded with cash on hand.

We are in the preliminary phase of the purchase accounting process, including obtaining third party valuations of certain tangible and intangible assets acquired. As such, the purchase accounting process is incomplete and we cannot provide the required disclosures of the estimated fair value of the assets and liabilities acquired for this business combination.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure  
None.

Item 9A. Controls and Procedures



Evaluation of Disclosure Controls and Procedures

In accordance with Securities Exchange Act Rules 13a-15(e) and 15d-15(e), our management, under the supervision of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the design and operation of our

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disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. As permitted, that evaluation excluded the business operations of Thinklogical, which was acquired in 2017. The acquired business operations excluded from our evaluation constituted approximately 4% of our total assets as of December 31, 2017, and 1% and (3%) of our revenues and operating income, respectively, for the year ended December 31, 2017. The operations of the acquired business will be included in our 2018 evaluation. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective as of December 31, 2017 because of the material weakness in our internal control over financial reporting described below.

### Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Securities Exchange Act of 1934, as amended, as a process designed by, or under the supervision of, the company's principal executive and principal financial officers and effected by the company's board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

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

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting can also be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk. The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2017. In making this assessment, the Company's management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (COSO) in Internal Control-Integrated Framework.

Based on that assessment, the Chief Executive Officer and Chief Financial Officer concluded as of December 31, 2017, the Company's internal control over financial reporting was not effective, due to the material weakness described below.

Within our Grass Valley business unit, headquartered in Montreal, Quebec, Canada, we did not maintain internal controls that were sufficiently designed and operating effectively to ensure that all revenue recognition criteria were satisfied prior to the recognition of revenue. Prior to issuing the fourth quarter and full year 2017 consolidated financial statements, we determined that this control deficiency led to the inappropriate recognition of revenue including certain transactions in which Grass Valley recognized revenue for products upon shipment to third party logistics providers rather than ultimate shipment to the customer-specified final destination. This control deficiency created a reasonable possibility that a material misstatement to the consolidated financial statements would not be

prevented or detected on a timely basis and, therefore, we concluded that the deficiency represents a material weakness in the Company's internal control over financial reporting as of December 31, 2017.

The Company's independent registered public accounting firm that audited the consolidated financial statements included in this Annual Report issued an adverse report on effectiveness of the Company's internal control over financial reporting as of December 31, 2017.

#### Remediation of the Material Weakness in Internal Control over Financial Reporting

The Company has begun to implement changes in order to remediate the identified material weakness which include the following: (1) we will enhance and revise the revenue recognition review control to ensure that it is designed to provide assurance that

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revenues are recognized at the appropriate time and under the appropriate circumstances, (2) we provided additional training to key members of our accounting and finance teams across all of our segments to ensure revenue recognition criteria is fully understood Company-wide, (3) we will provide further Company-wide revenue recognition training to appropriate accounting, finance and operations personnel to ensure compliance with the revenue recognition criteria under the new ASC 606 revenue standard that we adopted on January 1, 2018, and (4) we will re-evaluate the structure of Grass Valley's accounting and finance organization to confirm the presence of the technical knowledge required for each position. The material weakness cannot be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively.

Changes to Internal Control over Financial Reporting

Other than the ongoing remediation plans described above, there were no changes to our internal control over financial reporting that occurred during the quarter ended December 31, 2017 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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Report of Independent Registered Public Accounting Firm  
The Board of Directors and Stockholders  
Belden Inc.

### Opinion on Internal Control over Financial Reporting

We have audited Belden Inc.'s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control- Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission 2013 framework (the COSO criteria). In our opinion, because of the effect of the material weakness described below on the achievement of the objectives of the control criteria, Belden Inc. (the Company) has not maintained effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weakness has been identified and included in management's assessment. The Company did not maintain internal controls that were sufficiently designed and operating effectively to ensure that all revenue recognition criteria were satisfied prior to the recognition of revenue within the Company's Grass Valley business unit headquartered in Montreal, Quebec, Canada.

As indicated in the accompanying Management's Report on Internal Control over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Thinklogical, which is included in the 2017 consolidated financial statements of the Company and constituted 4% of total assets as of December 31, 2017 and 1% and (3%) of revenues and operating income, respectively, for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Thinklogical.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Belden Inc. as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and the financial statement schedule listed in the Index at Item 15(a). This material weakness was considered in determining the nature, timing and extent of audit tests applied in our audit of the 2017 consolidated financial statements, and this report does not affect our report dated February 13, 2018 which expressed an unqualified opinion thereon.

### Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

### Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly

reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial

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statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Ernst & Young LLP  
St. Louis, Missouri  
February 13, 2018

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Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information regarding directors is incorporated herein by reference to “Item I-Election of Ten Directors,” as described in the Proxy Statement. Information regarding executive officers is set forth in Part I herein under the heading “Executive Officers.” The additional information required by this Item is incorporated herein by reference to “Corporate Governance” (opening paragraph and table), “Corporate Governance-Audit Committee,” “Ownership Information-Section 16(a) Beneficial Ownership Reporting Compliance,” “Corporate Governance-Corporate Governance Documents” and “Other Matters-Stockholder Proposals for the 2019 Annual Meeting,” as described in the Proxy Statement.

Item 11. Executive Compensation

Incorporated herein by reference to “Executive Compensation,” “Corporate Governance-Director Compensation,” “Corporate Governance-Related Party Transactions and Compensation Committee Interlocks” and “Corporate Governance-Board Leadership Structure and Role in Risk Oversight” as described in the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters

Incorporated herein by reference to “Ownership Information-Equity Compensation Plan Information on December 31, 2017” and “Ownership Information-Stock Ownership of Certain Beneficial Owners and Management” as described in the Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Incorporated herein by reference to “Corporate Governance-Related Party Transactions and Compensation Committee Interlocks” and “Corporate Governance” (paragraph following the table) as described in the Proxy Statement.

Item 14. Principal Accountant Fees and Services

Incorporated herein by reference to “Public Accounting Firm Information-Fees to Independent Registered Public Accountants for 2017 and 2016” and “Public Accounting Firm Information-Audit Committee’s Pre-Approval Policies and Procedures” as described in the Proxy Statement.



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## PART IV

## Item 15. Exhibits and Financial Statement Schedules

## (a) Documents filed as part of this Report:

## 1. Financial Statements

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2017 and December 31, 2016

Consolidated Statements of Operations for Each of the Three Years in the Period Ended December 31, 2017

Consolidated Statements of Comprehensive Income for Each of the Three Years in the Period Ended December 31, 2017

Consolidated Cash Flow Statements for Each of the Three Years in the Period Ended December 31, 2017

Consolidated Stockholders' Equity Statements for Each of the Three Years in the Period Ended December 31, 2017

Notes to Consolidated Financial Statements

## 2. Financial Statement Schedule

## Schedule II – Valuation and Qualifying Accounts

	Beginning Balance	Charged to Costs and Expenses	Divestiture Acquisitions	Charge Offs	Recoveries	Currency Movement	Ending Balance
(In thousands)							
Accounts Receivable—							
Allowance for Doubtful Accounts:							
2017	\$ 8,104	\$ 950	\$38	\$(905 )	\$(995 )	\$ 574	\$7,766
2016	8,281	2,517	(1 )	(1,336 )	(1,046 )	(311 )	8,104
2015	11,503	2,561	40	(803 )	(4,353 )	(667 )	8,281
Inventories—							
Excess and Obsolete Allowances:							
2017	\$ 24,561	\$ 2,348	\$2,628	\$(3,219)	\$(2,205 )	\$ 1,156	\$25,269
2016	22,531	3,921	(706 )	—	(1,142 )	(43 )	24,561
2015	31,823	3,001	2,755	(12,744)	(1,407 )	(897 )	22,531
Deferred Income Tax Asset—							
Valuation Allowance:							
2017	\$ 104,771	\$ 39,307	\$—	\$(3,322)	\$(1,712 )	\$ 12,797	\$ 151,841
2016	117,071	10,782	616	(8,074 )	(10,526 )	(5,098 )	104,771
2015	157,317	2,840	(14,425)	(1,823 )	(13,988 )	(12,850 )	117,071

All other financial statement schedules not included in this Annual Report on Form 10-K are omitted because they are not applicable.

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## 3. Exhibits

The following exhibits are filed herewith or incorporated herein by reference, as indicated. Documents indicated by an asterisk (\*) identify each management contract or compensatory plan.

Exhibit Number	Description of Exhibit	The filings referenced for incorporation by reference are Company (Belden Inc.) filings unless noted to be those of Belden 1993 Inc.
3.1	<u>Certificate of Incorporation, as amended</u>	February 29, 2008 Form 10-K, Exhibit 3.1
3.2	<u>Certificate of Designations of 6.75% Series B Mandatory Convertible Preferred Stock of Belden Inc.</u>	July 26, 2016 Form 8-K, Exhibit 3.1
3.3	<u>Amended and Restated Bylaws</u>	May 31, 2016 Form 8-K, Exhibit 3.1
4.1	<u>Rights Agreement</u>	December 11, 1996 Form 8-A, Exhibit 1.1
4.2	<u>Amendment to Rights Agreement</u>	November 15, 2004 Form 10-Q, Exhibit 4.1
4.3	<u>Amendment to Rights Agreement</u>	December 8, 2006 Form 8-A/A, Exhibit 4.2(a)
4.4	<u>Amendment to Rights Agreement</u>	December 9, 2016 Form 8-A/A, Exhibit 4.4
4.5	<u>Indenture relating to 5.5% Senior Subordinated Notes due 2023</u>	March 26, 2013 Form 8-K, Exhibit 4.1
4.6	<u>First Supplemental Indenture relating to 5.5% Senior Subordinated Notes due 2023</u>	November 6, 2013 Form 10-Q, Exhibit 4.2
4.7	<u>Indenture relating to 5.25% Senior Subordinated Notes due 2024</u>	June 30, 2014 Form 8-K, Exhibit 4.1
4.8	<u>Third Supplemental Indenture relating to 5.5% Senior Subordinated Notes due 2022</u>	November 4, 2014 Form 10-Q, Exhibit 4.1
4.9	<u>Second Supplemental Indenture relating to 5.5% Senior Subordinated Notes due 2023</u>	November 4, 2014 Form 10-Q, Exhibit 4.2
4.10	<u>First Supplemental Indenture relating to 5.25% Senior Subordinated Notes due 2024</u>	November 4, 2014 Form 10-Q, Exhibit 4.3
4.11	<u>Fourth Supplemental Indenture relating to 5.5% Senior Subordinated Notes due 2022</u>	May 5, 2015 Form 10-Q, Exhibit 4.1
4.12	<u>Third Supplemental Indenture relating to 5.5% Senior Subordinated Notes due 2023</u>	May 5, 2015 Form 10-Q, Exhibit 4.2
4.13		May 5, 2015 Form 10-Q, Exhibit 4.3

Second Supplemental Indenture relating to 5.25%  
Senior Subordinated Notes due 2024

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| 4.14 | <u>Deposit Agreement dated July 26, 2016, by and among<br/>Belden Inc., American Stock Transfer &amp; Trust<br/>Company, LLC, and The Holders of the Depository<br/>Receipts Described Therein</u> | July 26, 2016 Form 8-K, Exhibit 4.2    |
| 4.15 | <u>Indenture relating to 4.125% Senior Subordinated<br/>Notes due 2026</u>   | October 11, 2016 Form 8-K, Exhibit 4.1 |
| 4.16 | <u>Fourth Supplemental Indenture relating to 5.5% Senior<br/>Subordinated Notes due 2023</u>   | June 26, 2017 Form 8-K, Exhibit 4.20   |
| 4.17 | <u>Third Supplemental Indenture relating to 5.25% Senior<br/>Subordinated Notes due 2024</u>   | June 26, 2017 Form 8-K, Exhibit 4.21   |

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Exhibit Number	Description of Exhibit	The filings referenced for incorporation by reference are Company (Belden Inc.) filings unless noted to be those of Belden 1993 Inc.
4.18	<u>First Supplemental Indenture relating to 4.125% Senior Subordinated Notes due 2026</u>	June 26, 2017 Form 8-K, Exhibit 4.22
4.19	<u>Indenture relating to 3.375% Senior Subordinated Notes due 2027</u>	July 10, 2017 Form 8-K, Exhibit 4.1
4.20	<u>Indenture relating to 2.875% Senior Subordinated Notes due 2025</u>	September 22, 2017 Form 8-K, Exhibit 4.1
10.1	Trademark License Agreement	November 15, 1993 Form 10-Q of Belden 1993 Inc., Exhibit 10.2
10.2*	<u>CDT 2001 Long-Term Performance Incentive Plan, as amended</u>	April 6, 2009 Proxy Statement, Appendix I
10.3*	<u>Belden Inc. 2011 Long Term Incentive Plan, as amended</u>	April 6, 2016 Proxy Statement, Appendix II
10.4*	<u>Form of Stock Appreciation Rights Award</u>	August 3, 2016 Form 10-Q, Exhibit 10.1
10.5*	<u>Form of Performance Stock Units Award</u>	August 3, 2016 Form 10-Q, Exhibit 10.2
10.6*	<u>Form of Restricted Stock Units Award</u>	May 6, 2014 Form 10-Q, Exhibit 10.3
10.7*	<u>Belden Inc. Annual Cash Incentive Plan, as amended and restated</u>	February 29, 2012 Form 10-K, Exhibit 10.16
10.8*	<u>2004 Belden CDT Inc. Non-Employee Director Deferred Compensation Plan</u>	December 21, 2004 Form 8-K, Exhibit 10.1
10.9*	<u>Belden Wire &amp; Cable Company (BWC) Supplemental Excess Defined Benefit Plan</u>	March 22, 2002 Form 10-K of Belden 1993 Inc., Exhibit 10.14
10.10*	<u>First Amendment to Belden Wire &amp; Cable Company (BWC) Supplemental Excess Defined Benefit Plan</u>	March 22, 2002 Form 10-K of Belden 1993 Inc., Exhibit 10.15
10.11*	<u>Second Amendment to Belden Wire &amp; Cable Company (BWC) Supplemental Excess Defined Benefit Plan</u>	March 14, 2003 Form 10-K of Belden 1993 Inc., Exhibit 10.21
10.12*	<u>Third Amendment to Belden Wire &amp; Cable Company (BWC) Supplemental Excess Defined Benefit Plan</u>	November 15, 2004 Form 10-Q, Exhibit 10.50

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10.13*	<u>BWC Supplemental Excess Defined Contribution Plan</u>	March 22, 2002 Form 10-K of Belden 1993 Inc., Exhibit 10.16
10.14*	<u>First Amendment to BWC Supplemental Excess Defined Contribution Plan</u>	March 22, 2002 Form 10-K of Belden 1993 Inc., Exhibit 10.17
10.15*	<u>Second Amendment to BWC Supplemental Excess Defined Contribution Plan</u>	2003 Form 10-K of Belden 1993 Inc., Exhibit 10.24
10.16*	<u>Third Amendment to BWC Supplemental Excess Defined Contribution Plan</u>	November 15, 2004 Form 10-Q, Exhibit 10.51
10.17*	<u>Trust Agreement</u>	November 15, 2004 Form 10-Q, Exhibit 10.52
10.18*	<u>First Amendment to Trust Agreement</u>	November 15, 2004 Form 10-Q, Exhibit 10.53
10.19*	<u>Trust Agreement</u>	November 15, 2004 Form 10-Q, Exhibit 10.54

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Exhibit Number	Description of Exhibit	The filings referenced for incorporation by reference are Company (Belden Inc.) filings unless noted to be those of Belden 1993 Inc.
10.20*	<u>First Amendment to Trust Agreement</u>	November 15, 2004 Form 10-Q, Exhibit 10.55
10.21*	<u>Amended and Restated Executive Employment Agreement with John Stroup</u>	April 7, 2008 Form 8-K, Exhibit 10.1
10.22*	<u>First Amendment to Amended and Restated Executive Employment Agreement with John Stroup</u>	December 17, 2008 Form 8-K, Exhibit 10.1
10.23*	<u>Amended and Restated Executive Employment Agreement with Henk Derksen</u>	January 5, 2012 Form 8-K, Exhibit 10.1
10.24*	<u>Executive Employment Agreement with Glenn Pennycook</u>	August 8, 2013 Form 10-Q, Exhibit 10.1
10.25*	<u>Executive Employment Agreement with Dhrupad Trivedi</u>	August 8, 2013 Form 10-Q, Exhibit 10.2
10.26*	<u>Executive Employment Agreement with Doug Zink</u>	November 6, 2013 Form 10-Q, Exhibit 10.1
10.27*	<u>Executive Employment Agreement with Ross Rosenberg</u>	August 5, 2014 Form 10-Q, Exhibit 10.1
10.28*	<u>Executive Employment Agreement with Roel Vestjens</u>	August 5, 2014 Form 10-Q, Exhibit 10.2
10.29*	<u>Executive Employment Agreement with Brian Anderson</u>	May 5, 2015 Form 10-Q, Exhibit 10.1
10.30*	<u>Executive Employment Agreement with Dean McKenna</u>	August 4, 2015 Form 10-Q Exhibit 10.1
10.31*	<u>Executive Employment Agreement with Paul Turner</u>	Filed herewith
10.32*	<u>Form of Indemnification Agreement with each of the Directors and Brian Anderson, Henk Derksen, Dean McKenna, Glenn Pennycook, Ross Rosenberg, John Stroup, Dhrupad Trivedi, Paul Turner, Roel Vestjens, and Doug Zink</u>	March 1, 2007 Form 10-K, Exhibit 10.39
10.33	<u>Purchase Agreement by and among Belden Inc., the Guarantors named therein and Deutsche Bank AG</u>	October 11, 2016 Form 8-K, Exhibit 10.1
10.34	<u>Amended and Restated Credit Agreement</u>	May 22, 2017, Form 8-K, Exhibit 10.1
10.35	<u>Purchase Agreement by and among Belden Inc., the Guarantors named therein and Deutsche Bank AG</u>	June 29, 2017 Form 8-K, Exhibit 10.1

10.36	<u>Purchase Agreement by and among Belden Inc., the Guarantors named therein and Deutsche Bank AG</u>	September 14, 2017 Form 8-K, Exhibit 10.1
12.1	<u>Computation of Ratio of Earnings to Fixed Charges</u>	Filed herewith
14.1	<u>Code of Ethics</u>	August 26, 2016 Form 8-K, Exhibit 14.1
21.1	<u>List of Subsidiaries of Belden Inc.</u>	Filed herewith
23.1	<u>Consent of Ernst &amp; Young LLP</u>	Filed herewith

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Exhibit Number	Description of Exhibit	The filings referenced for incorporation by reference are Company (Belden Inc.) filings unless noted to be those of Belden 1993 Inc.
24.1	<u>Powers of Attorney from Members of the Board of Directors</u>	Filed herewith
31.1	<u>Rule 13a-14(a)/15d-14(a) Certification of the Chief Executive Officer</u>	Filed herewith
31.2	<u>Rule 13a-14(a)/15d-14(a) Certification of the Chief Financial Officer</u>	Filed herewith
32.1	<u>Section 1350 Certification of the Chief Executive Officer</u>	Filed herewith
32.2	<u>Section 1350 Certification of the Chief Financial Officer</u>	Filed herewith

- Exhibit 101.INS XBRL Instance Document
- Exhibit 101.SCH XBRL Taxonomy Extension Schema
- Exhibit 101.CAL XBRL Taxonomy Extension Calculation
- Exhibit 101.DEF XBRL Taxonomy Extension Definition
- Exhibit 101.LAB XBRL Taxonomy Extension Label

\*Management contract or compensatory plan  
 Copies of the above Exhibits are available to shareholders at a charge of \$0.25 per page, minimum order of \$10.00.  
 Direct requests to:  
 Belden Inc., Attention: Corporate Secretary  
 1 North Brentwood Boulevard, 15th Floor  
 St. Louis, Missouri 63105



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## Signatures

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

BELDEN INC.

By /s/ JOHN S. STROUP

John S. Stroup

President, Chief Executive Officer, and Chairman

Date: February 13, 2018

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

/s/ JOHN S. STROUP John S. Stroup	President, Chief Executive Officer, and Chairman	February 13, 2018
/s/ HENK DERKSEN Henk Derksen	Senior Vice President, Finance, and Chief Financial Officer	February 13, 2018
/s/ DOUGLAS R. ZINK Douglas R. Zink	Vice President and Chief Accounting Officer	February 13, 2018
/s/ BRYAN C. CRESSEY* Bryan C. Cressey	Lead Independent Director	February 13, 2018
/s/ DAVID ALDRICH* David Aldrich	Director	February 13, 2018
/s/ LANCE C. BALK* Lance C. Balk	Director	February 13, 2018
/s/ STEVEN BERGLUND* Steven Berglund	Director	February 13, 2018
/s/ DIANE BRINK* Diane Brink	Director	February 13, 2018
/s/ JUDY L. BROWN* Judy L. Brown	Director	February 13, 2018

/s/ JONATHAN KLEIN\*

Director

February  
13, 2018

Jonathan Klein

/s/ GEORGE MINNICH\*

Director

February  
13, 2018

George Minnich

/s/ JOHN MONTER\*

Director

February  
13, 2018

John Monter

/s/ JOHN S. STROUP

\*By John S. Stroup, Attorney-in-fact