COMMUNICATIONS SYSTEMS INC
Form 10-K
March 08, 2019

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, 2018

Commission File Number: 001-31588

COMMUNICATIONS SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Minnesota	**41-0957999**
(State or other jurisdiction	(Federal Employer

of incorporation or organization) Identification No.)

10900 Red Circle Drive, Minnetonka, MN 55343
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (952) 996-1674

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

Title of each class	**Name of each exchange on which registered**
Common Stock, $.05 par value	**NASDAQ**
Preferred Stock Purchase Rights	

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 15(d) of the Act. YES NO

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company, or an emerging growth company.

See the definitions of " large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	Accelerated Filer	Non-Accelerated Filer
Smaller Reporting Company	Emerging Growth Company	

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

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.

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant was approximately $27,188,000 based upon the closing sale price of the Company's common stock on the Nasdaq Capital Market on June 30, 2018.

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

As of March 1, 2019 there were outstanding 9,171,913 shares of the Registrant's common stock.

Documents Incorporated by Reference:	Portions of the Company's Proxy Statement for its Annual Meeting of Shareholders to be held on May 22, 2019 are incorporated by reference into Part III of this Form 10-K.

PART I

ITEM 1. BUSINESS

(a) GENERAL DEVELOPMENT OF BUSINESS

Communications Systems, Inc. (herein collectively referred to as “CSI,” “our,” “we” or the “Company”) is a Minnesota corporation organized in 1969 that operates directly and through its subsidiaries located in the United States (U.S.) and the United Kingdom (U.K.). CSI is principally engaged through its Transition Networks, Inc. (“Transition Networks” or “Transition”) subsidiary and business unit in the manufacture and sale of core media conversion products, Ethernet switches, and other connectivity and data transmission products, and through its Suttle, Inc. (“Suttle”) subsidiary and business unit in the manufacture and sale of connectivity infrastructure products for broadband and voice communications. Through its JDL Technologies, Inc. (“JDL Technologies” or “JDL”) business unit, CSI provides technology solutions including virtualization, managed services, wired and wireless network design and implementation, and hybrid cloud infrastructure and deployment. Through its Net2Edge Limited (“Net2Edge”) U.K.-based business unit, the Company develops, manufactures and sells products that enable telecommunications carriers to connect legacy networks to high-speed services.

The Company maintains a website at www.commsystems.com. Our annual reports on Form 10-K, our quarterly reports on Form 10-Q and our periodic reports on Form 8-K (and any amendments to these reports) are available free of charge by linking from our website to the Securities and Exchange Commission website.

(b) FINANCIAL INFORMATION ABOUT INDUSTRY SEGMENTS

The Company classifies its businesses into the following four segments:

Transition Networks designs and markets media conversion products, Ethernet switches, and other connectivity and data transmission products;

Suttle manufactures connectivity infrastructure products for broadband and voice communications;

JDL Technologies is an IT managed services provider and value-added reseller; and

Net2Edge develops, manufactures and sells products to transmit packetized voice and data across networks and between copper-wired and fiber optic equipment.

Non-allocated general and administrative expenses are separately accounted for as "Other" in the Company's segment reporting. Intersegment revenues are eliminated upon consolidation. Further information regarding these segments, including customer and industry concentration, is set forth in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and in Note 11 of the Notes to Consolidated Financial Statements under Item 8.

(c) NARRATIVE DESCRIPTION OF BUSINESS

(1) <u>Information Regarding Business Segments</u>

(i) <u>Transition Networks, Inc.</u>

Transition Networks, Inc., based in Minnetonka, Minnesota, designs, assembles and markets media converters, NIDs, network interface cards (NICs), Ethernet switches, Small Form Factor Pluggable modules (SFP), and other connectivity products under the Transition Networks brand name. Transition sells its products through distributors, resellers, integrators, and original equipment manufacturers ("OEMs"). These media converters, NIDs, and Ethernet Switch products allow network operators to transmit voice and data across networks and between copper-wired and fiber-optic equipment. Sales by Transition Networks were $36,470,000 in 2018 compared to $38,541,000 in 2017. International sales accounted for 15% of Transition's sales, or $5,411,000 in 2018, compared to $7,280,000, or 19% of Transition's sales in 2017.

Products

Transition Networks designs, assembles and sells media converter devices, NIDs, Ethernet switches and other connectivity products that enable customers to transmit voice and data across networks and between systems using different types of media (for example, between copper and fiber). These products assist customers in resolving challenges in the areas of bandwidth constraints, security risks, and distance limitations as networks extend from local area to wide area networks and adapt to ever increasing end-user demands. As enterprise networks continue to change and evolve, our solutions enable customers to both integrate fiber optics into their existing infrastructure as their networks grow, and to extend advanced data services to their customers at remote locations, including supporting wireless networks and backhaul requirements. Many of our products incorporate features to perform advanced levels of fault management and diagnostics to troubleshoot fiber optic and copper network infrastructure. Our growing Power-over-Ethernet (PoE) products support remote devices such as cameras and wireless access points by passing electrical power along with data on Ethernet cabling, eliminating the need for local power in hard-to-reach locations.

Transition Networks products support a wide variety of protocols, including: 10 Gigabit Ethernet, Gigabit Ethernet, Fast Ethernet, Ethernet, T1/E1, T3/E3, DS1/DS3, RS232, RS485, OC3, OC12, among others. Transition Networks develops product hardware and software internally, and expenses the related costs as they are incurred. In connection with the sale of its hardware products, Transition Networks provides its customers with a variety of software management options including Network Management System (NMS) software for providing superior provisioning and monitoring of its Ethernet switches and other managed devices. Transition has been developing and marketing Ethernet-based networking products for over 30 years. Transition Networks continues to develop products that address the enterprise, service provider, industrial, government, and security markets. Increasingly, Transition Networks Power-over-Ethernet products are used in smart building environments, intelligent transportation applications, and in security and surveillance networks.

Manufacturing and Sources of Supply

Transition Networks uses contract manufacturers to manufacture its products in different geographical locations, in addition to OEM partners through which the Company sources product and markets under its own name. In 2018, 65% of the total value of Transition Networks’ products was manufactured in or sourced from Asia, 27% was manufactured in the US, and the remaining 8% was produced in Mexico. Offshore sources of supply are subject to certain risks, including political risk.

Markets and Marketing

Transition Networks' products are used in a broad array of markets including federal government, enterprise, service provider, industrial, security and surveillance markets. Transition Networks has a broad customer base that uses its products in a variety of applications.

The line of Ethernet switches (both POE and non-POE) is used in last-mile access, backhaul, wiring closets and at end-user stations. These are sold into security networks, intelligent transportation applications, smart buildings, corporate enterprise networks and other Internet of Things applications domestically and abroad. The media conversion product line is used in several applications. The ION and Point System™ chassis-based modular systems are used primarily in telecommunications closets for high-density applications or when multiple protocols need to be supported. Stand-alone media converters are used typically at customer premises or for lower density applications. The Carrier Ethernet NID line of products addresses the high quality access requirements for both business services and wireless backhaul data communications and telecommunications applications.

Marketing primarily consists of direct marketing using a sales force, tradeshows, trade magazine advertising, on-line advertising, website, email, social media and public relations activities. Transition Networks also provides and participates in advertising and cooperative marketing campaigns with distribution partners.

The “Transition Networks” brand name is important to the Company’s business. The Company believes the Transition Networks name is well known in the marketplace and with trade advertising.

Research and Development

Transition Networks develops products for the federal government, enterprise, service provider, security and industrial markets. This includes developing converters for emerging protocols and existing protocols in new markets, as well as new industry standards. Some of these products include remote management devices built on the IEEE® 802.3AH, 802.3AG, ITU-T Y.1731 standards, Metro Ethernet Forum (MEF)® standards, and Power Over Ethernet devices based on the IEEE® 802.3AF and IEEE® 802.3AT standards. Some design efforts are paced by the development of critical components such as integrated circuits and optical transceivers.

Research and development consists primarily of designing, prototyping, and testing of equipment and supplies associated with developing new products and enhancing existing products. Research and development costs are expensed when incurred and were $2,664,000 in 2018 compared to $2,454,000 in 2017.

Transition Networks’ conducts its research and development operations in the United States, at its Minnetonka, Minnesota headquarters location. While this U.S. location has primary engineering and product development responsibility, Transition Networks occasionally uses third party design services and Original Design Manufacturers (“ODM”) to support specific product design requirements.

Competition

Transition Networks faces strong competition across its entire product line. A large number of competitors exist for high volume products in the Fast Ethernet and Gigabit Ethernet families, as well as the NIDs. Low-cost competitors from China and Taiwan are strongest in (i) Asian, (ii) European, Middle Eastern, and African (“EMEA”) and (iii) South American markets. Transition Networks also faces new competitors as it enters new markets for industrial products, security market, and higher performance devices for the service provider market.

Order Book

Outstanding customer orders for Transition Networks products were approximately $1,470,000 at March 1, 2019 and $2,607,000 at March 1, 2018. Transition Networks orders are fulfilled on a relatively short-term basis and therefore the Company does not consider the order book as a significant indicator of longer term future results.

(ii) Suttle, Inc.

Suttle, based in Minnetonka, Minnesota, manufactures and markets a broad range of products that support broadband and telephone service under the Suttle brand name in the United States and internationally. Products are deployed in the last mile of the carrier network as well as inside the premise/enterprise to meet the unique needs of hybrid/fiber/copper networks. The Company's customer-oriented approach provides right-sized solutions that leverage existing infrastructure and protect investments as markets and technologies grow and change. With over 100 years of knowledge and experience, Suttle is a reliable partner, delivering innovative, flexible, easy-to-use solutions, lower cost of ownership, and solid customer support. The Company manufactures 71% of its products at its plant in Hector, Minnesota. The other 29% are purchased from offshore contract manufacturers. Segment sales were $23,410,000 in 2018 and $32,384,000 in 2017.

Products

Suttle's products include Structured Cabling Products (enclosure systems to support premise distribution of broadband and other connectivity networks), FTTx Products (fiber optic management and connectivity solutions for access and premise networks), Modular Connecting Products (connecting products for copper telecommunications networks) and DSL Products (products that support broadband connectivity to copper networks).

Products for the Edge of the Network:

Suttle's solutions for the last mile of the carrier's network, i.e. the "Edge," are designed to operate in challenging environments yet be easily accessible, extend the life of the existing network, enhance data speeds, and prevent loss of bandwidth at the point of use.

Suttle products are designed to work indoor and outdoor and feature flexibility and scalability in real world applications for both copper and fiber networks. Suttle's FutureLink™ solutions offer a range of products, including terminals, as well as patch-and-splice and splitter enclosures.

Products for the Connected Home/Business:

Suttle sells service distribution products for cost-effective solutions using existing and new structured wiring. These products reduce installation time and labor costs, and increase the provider's return on investment. In addition to reducing a service provider's up-front costs, Suttle's high throughput solutions help eliminate potential bottlenecks to "future-proof" the installation, reducing future costs.

Suttle's MediaMAX™ brand products enable reliable brownfield and greenfield inside premise connectivity to meet the increasing demand for wired and wireless high-speed service throughout the home and business. Designed to optimize installation cost while maximizing coverage and bandwidth at the point of use for multiple deployment topologies, this brand includes a premise connectivity and distribution system, featuring plastic modular enclosures and tool-less, snap-in modules to minimize wireless interference. MediaMAX™ brand products replace Suttle's SOHO™ brand products, which had been Suttle's primary premise distribution products for approximately the last 10 years.

Another key feature of the MediaMAX brand products is installation cost and time saving tool-less technology available in jacks and modules. Rounding out the inside the premise/enterprise offering are faceplates and wall plates that accommodate hybrid/fiber, copper and coax connections for higher speed, tool-less connectivity and lower cost of ownership.

Markets and Marketing

Suttle markets its outside plant and premise distribution products globally to telecommunications companies, service providers, residential builders, and low-voltage installers through distributors and the Company' sales staff. Suttle has a solid history of offering long-term solutions to some of the largest global providers by understanding customers' needs and providing innovative solutions coupled with strong customer support. Suttle reaches its targeted customers through a variety of marketing media including trade shows, associations, advertising, social media, and the Suttle website, SuttleSolutions.com, which emphasizes our focus on end-to-end customer oriented solutions for communication service providers.

Customers

Suttle's customers include telephone, CATV, internet service providers, residential builders and contractors as well as enterprise networks. The Company's major telephone company customers include AT&T, CenturyLink and Verizon. Suttle serves these major telephone companies directly by Suttle's sales staff and through a select group of distributors. Sales (including DSL) to the major telephone companies, as a group, both directly and through distribution, represented 83% of Suttle's sales in 2018 and 90% in 2017.

Other customers include smaller telephone companies, electrical/low-voltage contractors, home builders, and a nationwide network of distributors. Suttle serves these customers primarily through distributors, but also directly through its sales staff. Sales to cable customers and OEMs are made through Suttle' nationwide network of distributors and through Suttle's sales staff. Sales to OEMs and other distributors were 9% of Suttle's sales in 2018 and 8% in 2017. Sales to international customers and other customers represented 8% of Suttle's sales in 2018 and 2% in 2017.

Competition

Suttle encounters strong competition in all its product lines and competes primarily on the basis of the broad lines of products offered, product performance, quality, price, delivery, and customer support. Some distributors of Suttle's products also market products for one or more of Suttle's competitors.

Manufacturing and Sources of Supply

Suttle manufactures its products using plastic or metal parts, wire sub-assemblies, fasteners, brackets, electronic circuit boards, and other components, most of which are fabricated by Suttle. There are multiple sources of supply for the materials and components and Suttle is not dependent upon any single supplier. Although Suttle has not generally experienced significant problems in obtaining its required supplies, from time to time it experiences spot shortages and longer order lead times are required from its offshore suppliers.

Research and Development

Suttle continually seeks to understand the needs of its customers and both develops new products for evolving customer requirements and enhances existing products to improve its existing product line. For competitive reasons, including duplication of its designs by foreign apparatus manufacturers, Suttle has adopted a policy to seek patent protection on innovative new products. Suttle filed five patent applications in 2016, filed two patent applications in 2017, and did not file for any patent applications in 2018.

Research and development consists primarily of designing, prototyping, and testing of equipment and supplies associated with developing new products and enhancing existing products. Research and development costs are expensed when incurred and were $244,000 in 2018 compared to $528,000 in 2017.

Suttle and Suttle Solutions are important trademarks. Suttle supports these brand names by trade advertising and believes they are well known in the marketplace. Other important trademarks include FutureLink™ brand for the last mile and MDU solutions; MediaMAX™ panels, modules, jacks and wall plates; SpeedStar™ for passive premise connectivity; and CorroShield® brand gel that prevents network corrosion.

Order Book

Suttle manufactures its products both on a make-to-order basis and on the basis of customer forecasts. Outstanding customer orders at March 1, 2019 were approximately $1,985,000 compared to approximately $2,849,000 at March 1, 2018. New orders are generally filled within 60 days. Suttle does not believe its order book is a significant indicator of longer term future results.

(iii) JDL Technologies, Inc.

JDL Technologies, Inc., based in Fort Lauderdale, Florida, is a managed service provider and value-added reseller supplying information technology ("IT") solutions focused on (a) IT managed services, which include (i) network design, deployment and integration; (ii) cloud hosted and virtualized services; and (iii) remote support and management from our managed services operation center and (b) project revenue which includes IT services project engagements. JDL's 2018 sales were $5,134,000 compared to 2017 sales of $11,210,000. Project revenue totaled $3,005,000 in 2018 or 59% of JDL sales compared to $8,532,000 in 2017 or 76% of JDL sales. Managed service revenues decreased to $2,129,000 in 2018 from $2,678,000 in 2017.

Markets and Marketing

JDL differentiates itself from its competitors by continuously adapting to changes in available IT services, ensuring it continues to provide new and innovative solutions to its clients and prospective clients. This ensures JDL remains well qualified to help clients with their use of technology and IT resources to meet business objectives and regulatory requirements.

JDL partners with clients to provide complete support for their information technology environments, from servers to software applications, from the network-level down to the desktop level. Under a typical managed services agreement, JDL maintains corporate IT, resolves issues, supports the client's user community, and adds value to the client's business by enabling the client to focus on its core competencies. JDL's key avenues for delivering on this commitment—and its competitive advantages—include JDL's on-premise managed services operations center and secure, state-of-the-art hosted datacenter. The managed services operations center leverages the best available tools, applications, practices and resources to deliver a consistent, quality customer experience. JDL holds the MSP Trustmark credential from CompTIA and is a member of the MSP Alliance.

JDL's portfolio of technology solutions reflects the regular introduction of new technologies and delivery methodologies and the increasing demand among businesses for innovative solutions to strengthen their competitive edge and address prevailing IT challenges. With its team of professionally certified engineers, more than 250 years of technical experience, and talented leadership, JDL Technologies develops IT solutions that effectively meet these demands. To sustain its leading-edge position, JDL also maintains robust partnerships with strategic manufacturers and is a 3CX VoIP Gold Partner, HP Enterprise Gold Partner, Microsoft Partner, eMDs Solution Provider and Citrix Solutions Service Provider.

Customers

In 2018, JDL Technologies aggressively targeted its primary vertical markets, healthcare and commercial business, through its JDL HealthTech™ and JDL TechWatch™ brands.

Healthcare:

Under the JDL HealthTech brand, JDL continues to serve as a trusted partner to its healthcare clients, offering an array of services that address HIPAA Security Rule and Privacy Rule compliance requirements, including its flagship cloud-based service, HIPAA FastTrack. JDL's managed services practice supports clients ranging from single-office providers, to multi-location regional specialists, to their regulated suppliers and business associates.

Commercial:

JDL Technologies provides support and service to a diverse commercial client set under its JDL TechWatch brand. In 2018, JDL placed increased emphasis on an expanded set of security solutions layered on top of its Cloud Based IT Managed Services. This enabled JDL to provide an even more secure total solution that included security awareness testing and training of client end users which is increasingly important as threats to an organizations security are focused more and more on end users as the weakest link.

Education:

JDL Technologies continues to support a multi-year project to provide wireless network services and datacenter upgrades for several hundred public K-12 schools in Florida. The education vertical remains an important element of JDL's overall market strategy.

Products and Services

As a managed service provider and value-added reseller, JDL Technologies specializes in delivering technology solutions that free organizations to focus on the strategic business activities critical to their financial success. JDL's technology solutions encompass an extensive range of networking, virtualization, cloud and infrastructure services, most of which are available under JDL managed services contracts. As technology continues its move to the cloud, JDL aggressively markets its portfolio of cloud-based service offerings to healthcare and commercial business. Its HIPAA FastTrack and Security FastTrack services, available in the JDL Cloud powered by Citrix, have won awards for product innovation, just as JDL Technologies has been recognized in the industry as a leading Managed Service Provider. JDL engineers are trained and certified in the newest cloud and other technology solutions.

Managed Services:

JDL Technologies continues to refine its Managed Services offering as the industry matures taking it from a traditional remote management model to a hosted service offering that grants JDL greater control, enables tighter service level agreements and increases margins. JDL serves a diverse base of clients with locations throughout the United States, offering managed service programs designed specifically for the healthcare and commercial markets. These robust programs meet HIPAA compliance standards and, while the majority of clients are supported remotely, independent of geographic borders, JDL is also able to provide on-site network management and help desk support for key enterprise clients in the South Florida and Atlanta, Georgia markets. JDL's managed services include network management, availability assurance, event alerting and incident management services; server, workstation, mobile device and other asset management services; security services including software patching, firewall, antivirus, antimalware and intrusion detection and prevention services; help desk support for client users; SIP trunking, voice over IP and office management services; migration, conversion and vendor management; and technical consulting services and training.

Cloud Solutions:

With widespread adoption of cloud solutions on the rise, JDL continues to focus on these solutions as our growth potential. Wireless as a service, infrastructure as a service, and Citrix as a service (sold as JDL FastTrack) are among JDL's the most successful cloud offerings, with others including backup, storage, voice over IP, firewall and email as cloud or hosted services. The benefits to clients are numerous and include vertical and horizontal scalability, internal bandwidth conservation, and simplification of IT management within client organizations, while JDL benefits from substantial economies of scale and standardization. All JDL cloud offerings are billable as monthly recurring revenue under its managed service model, and JDL is committed to bringing the benefits of cloud services to all clients.

Network Services:

JDL's roots are in network services, and these services remain central to its role as a managed service provider and value-added reseller. The JDL team has extensive experience and professional certifications in assessing, designing and implementing wired and wireless networks as well as entire technology infrastructures. Networking services also include network infrastructure as a service, network design and deployment, network and endpoint security, network tuning and device installation/configuration services.

Virtualization:

Using virtualization across an organization's IT environment delivers greater agility, mobility and efficiency. JDL's virtualization engineers assess, design, deploy, and manage virtualization programs that are designed to ensure user access to any workload, anytime, anywhere, on any device. JDL's virtualization services encompass desktops, servers, applications, storage, and any combination thereof, including connectivity and software licensing. As JDL clients continue to adopt virtualization, they experience the economies of scale, reduced capital requirements, enhanced security, and disaster recovery protections that are inherent in virtualized environments.

Competition

The Managed Services Market continues to promise significant growth over the next several years, making it a highly competitive industry. In response to these pressures, JDL's focus is to quickly adapt to the changing needs of its clients through the adoption and productizing of new IT Service technologies as they become available. An example of this would be the addition of several security services to the JDL portfolio in 2018 including end user phish training and assessment services, system vulnerability testing and Multifactor Authentication tools for securing application access. By ensuring JDL continuously evaluates the services we offer with a focus on the changing market, we are able to provide a better range of services to our clients and prospects while increasing their reliance upon us as their IT service provider.

Order Book

Outstanding customer orders and contracts for JDL products and services were approximately $1,203,000 at March 1, 2019 and $1,344,000 at March 1, 2018. The Company does not consider current outstanding orders and contracts as a significant indicator of longer term future results.

(iv) Net2Edge

Net2Edge Limited, based in Basingstoke, Hampshire, United Kingdom, designs, manufactures and markets Carrier Ethernet based Network Access Devices and software under the Liberator™ brand name. Net2Edge™ uses a direct sales model and also markets its products through approved partners and integrators. Net2Edge's physical products allow network operators to transmit packetized voice and data across networks and between copper-wired and fiber-optic equipment. Sales by Net2Edge were $1,700,000 in 2018 and $1,079,000 in 2017.

Products

Net2Edge designs, assembles and sells Ethernet based switches based around the international MEF standards. Those products range from legacy over packet interfaces such as Serial, TDM or ISDN and Native Ethernet from 1G to 10G. Net2Edge targets these products at telecommunications service providers as Network Interface Devices. By design, the products transmit data from the subscriber enterprise to the provider edge, usually a router. The products are sophisticated, carrying multiple services with definable quality of service metrics over fiber optic paths. These products assist in resolving challenges in the areas of bandwidth constraints, security risks, and distance limitations as networks extend from local area to wide area networks and adapt to ever increasing end-user demands. As enterprise networks continue to change and evolve, our solutions enable customers to integrate multiple services into their existing infrastructure. All Net2Edge products incorporate features for performing advanced levels of fault management and automated provisioning minimizing the administrative burden of the operator.

Net2Edge products support a wide variety of protocols, including: 10 Gigabit Ethernet, Gigabit Ethernet, Fast Ethernet, Ethernet, T1/E1, DS3, Circuit Emulation Services (TDM or ISDN over Ethernet or IP), RS232, RS485, OC3, OC12, GFast and more. Net2Edge develops product hardware and software internally, and expenses the related costs as they are incurred.

Manufacturing and Sources of Supply

Net2Edge uses contract manufacturers to manufacture its products in the UK. Because some of Net2Edge's offshore sources of supply are subject to risks, including political, communication and logistic risk, when possible, Net2Edge takes steps to ensure it has multiple suppliers to ensure business continuity.

Markets and Marketing

Net2Edge products are used in a broad array of market sectors including the Government, Enterprise, Utility, Industrial, and Surveillance markets. Net2Edge has a growing international customer base outside the United Kingdom and customers use its products in a variety of applications.

Net2Edge's marketing primarily consists of direct marketing using a sales force, tradeshows, trade magazine advertising, on-line advertising, website, email, social media, and public relations activities. Net2Edge also participates in advertising and cooperative marketing campaigns with its partners.

The Company's "Net2Edge" brand name is important to its business. The Company regularly supports this brand name by trade advertising and intends for it to become well known in the marketplace.

Research and Development

Net2Edge develops products for the service provider market including products for emerging protocols and existing protocols in new markets, as well as new industry standards. These products include remote management devices built on the IEEE® 802.3AH, 802.3AG, ITU-T Y.1731 standards, Metro Ethernet Forum ("MEF")® and MEF 2.0 standards. Some design efforts are paced by the development of critical components such as integrated circuits, System On Chip ("SOC") silicon and optical transceivers.

Research and development consists primarily of designing, prototyping, testing equipment and supplies associated with enhancing existing products and developing new products. Research and development costs are expensed when incurred and were $878,000 in 2018 and $657,000 in 2017.

Net2Edge conducts its research and development operations out of its Basingstoke, United Kingdom headquarters location. While this UK location has primary engineering and product development responsibility, Net2Edge will occasionally use third party design services and ODMs to support specific product design requirements.

Competition

Net2Edge faces strong competition across its entire product line. A large number of competitors exist for high volume products. There are low cost competitors from China and Taiwan and established competitors from the USA and Canada.

Order Book

Outstanding customer orders for Net2Edge products were approximately $1,105,000 at March 1, 2019 and $1,031,000 at March 1, 2018. Net2Edge orders are fulfilled on a relatively short-term basis and therefore the Company does not consider the order book as a significant indicator of longer term future results.

(2) Employment Levels

As of March 1, 2019 the Company employed 241 people. Of this number, 94 were employed by Suttle, 88 by Transition Networks, Inc., 23 by JDL Technologies, Inc., 19 by Net2Edge in the U.K., and 17 corporate general and administrative positions.

(3) Executive Officers of Registrant

The executive officers of the Company and their ages at March 1, 2019 are set forth below. See Item 9B of this Form 10-K for additional information on the Company's management.

Name	Age	Position[1]
Roger H.D. Lacey	68	Executive Chairman of the Company's Board and Chief Executive Officer[2]
Mark D. Fandrich	57	Group Business President, Treasurer and Chief Financial Officer [3]

Scott Otis	57	Group Business President & General Manager, Transition Networks, Inc. [4]
Scott Fluegge	49	President and General Manager, JDL Technologies, Inc [5]
Kristin A. Hlavka	37	Corporate Controller [6]

1 Additional footnotes indicate when officers began serving in their current capacity. Executive officers serve at the pleasure of the Board of Directors.

2 Mr. Lacey has served as the Company's Chief Executive Officer since February 2015 and has served as the Executive Chairman of the Company's Board of Directors since December 2018. Additional information about Mr. Lacey's background will be contained in the 2019 Proxy Statement.

3 Mr. Fandrich was appointed Chief Financial Officer in August 2016, and effective January 1 2019, was named Group President of the Suttle and JDL Technologies business segments. From July 2015 to August 2016, he served as Vice President of Finance of Suttle, Inc. From April 2004 to July 2015, he was Corporate Controller for The Bergquist Company, a global supplier of thermal interface material.

4 Mr. Otis was appointed General Manager of Transition Networks in September 2013, and effective January 1, 2019, was named Group President of the Transition Networks and Net2Edge operating segments. From December 2010 to June 2011 he served as Vice President, Operations - Professional Services for TE Connectivity, Inc. Prior to December 2010, he was the Vice President, Marketing and Business Development – ADC Professional Services.

5 Mr. Fluegge was appointed Vice President and General Manager of JDL Technologies in December 2011, and was named President and General Manager in September 2013. Prior to this, he was the Vice President of Workload Automation at GSS AMERICA / GSS INFOTECH / INFOSPECTRUM CONSULTING.

6 Ms. Hlavka was appointed Corporate Controller in May 2011. From July 2008 to April 2011, she served as the Assistant Corporate Controller. Prior to July 2008, she was an auditor for Deloitte and Touche LLP.

(d) FINANCIAL INFORMATION ABOUT FOREIGN AND DOMESTIC OPERATIONS AND EXPORT SALES

Financial information about domestic and foreign operations and export sales may be obtained by reference to Note 11 of the "Notes to Consolidated Financial Statements" under Item 8 herein.

ITEM 1A. RISK FACTORS

Forward Looking Statements

Certain statements contained in this Annual Report on Form 10-K are "forward-looking" statements within the meaning of and in reliance on the Private Securities Litigation Reform Act of 1995, which provides a "safe harbor" for forward-looking statements. Actual events and results may differ materially from those expressed or forecasted in forward-looking statements due to a number of factors. The principal important risk factors that could cause our actual performance and future events and actions to differ materially from these forward-looking statements include, but are not limited to, the risk factors discussed below.

Risks Related to Our Business

The primary markets we serve are highly competitive, and our ability to compete requires continual focus on delivering high-quality, competitively priced products and services and the regular introduction of new products and services that meet evolving customer requirements.

Competition in the markets for enterprise networks and voice and data communications products is intense. Our ability to compete with other manufacturers and marketers of these products depends primarily on our engineering, OEM/ODM relationships, manufacturing, and marketing skills; the price, quality and reliability of our products; our delivery and service capabilities; and our control of operating expenses. Our JDL subsidiary experiences intense competition from other providers of IT products and services. We have experienced, and anticipate continuing to experience, pricing pressures from our customers as well as our competitors. The markets we serve are characterized by rapid technological advances and evolving industry standards. These markets can be significantly affected by new product introductions and marketing activities of industry participants. Some of our current competitors and potential competitors have greater financial, technological, manufacturing, marketing, and personnel resources than we. These current and future competitors may be able to identify new markets and develop new products that are superior to those we develop. They may also adapt new technologies faster, devote greater resources to research and development, promote products more aggressively, and price products more competitively than we. We cannot ensure that competition will not intensify or that we will be able to compete effectively in the markets in which we compete.

Our gross margins have fluctuated year to year, and we face many challenges in maintaining acceptable margins.

Gross margins among our products and services vary and are subject to fluctuation from quarter to quarter and year to year. The factors that may affect our gross margins adversely are numerous and include:

Changes in customer, geographic, or product mix;

Our ability to reduce product costs

Royalties related to technology licensing

Increases in material or labor costs

Expediting costs incurred to meet customer delivery requirements

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Excess inventory and inventory carrying charges

Tariffs on imported products

Obsolescence charges

Changes in shipment volume

Changes in component pricing

Changes in OEM/ODM pricing

Increased price competition

Changes in distribution channels

Lower margins on competitive-bid contracts

Increased warranty cost and

Our ability to manage the impact of foreign currency exchange rate fluctuations.

Consolidation among our customers has occurred and further consolidation may occur, resulting in the loss of some customers and reducing revenue during the pendency of business combinations and related integration activities.

We believe future consolidation may occur among our customers as they attempt to increase market share and achieve greater economies of scale. Consolidation has affected our business as our customers focus on completing business combinations and integrating their operations. In some instances, customers integrating large-scale acquisitions have reduced their purchases of our products as they integrate.

The business effect on us of significant customer mergers is likely to be unclear until sometime after these transactions are completed. After a consolidation occurs, a customer may choose to reduce the number of vendors from which it purchases equipment and may choose one of our competitors as its preferred vendor. We cannot ensure that we will continue to supply equipment to the surviving communications service provider after a business combination is completed.

We cannot guarantee the ability of the Special Committee of our Board of Directors to develop strategic options for the Company and the Company's ability to implement these strategies.

In May of 2018 the Company announced it had initiated a strategic review of the Company's businesses to explore opportunities for enhancing shareholder value and had engaged an investment banking firm to advise it in this process. Failure to develop a growth strategy and reduce its operating losses could result in continuing operating losses and lack of shareholder confidence, which could negatively impact cash flow and the trading price of our common stock.

Our information technology systems may be exposed to various cybersecurity risks and other disruptions that could impair our ability to operate, adversely affect our business, and damage our brand and reputation. Risks are particularly acute in the cloud-based technologies that we and other third parties operate and that form a part of our solutions.

We rely extensively on our information technology systems or on third-parties for services including our enterprise resource planning ("ERP") system, banking, payroll, shipping, and e-mail systems to conduct business. We also collect, store and transmit sensitive data, including proprietary business information and personally identifiable information of our customers, suppliers and employees.

Despite our investment in our information technology systems and data security program, the implementation of security measures to protect our data and infrastructure against breaches and other cyber threats, and our use of internal processes and controls designed to protect the security and availability of our systems, our information technology and communication systems may be vulnerable to cybersecurity risks such as computer viruses, hacking, malware, denial of service attacks, cyber terrorism, circumvention of security systems, malfeasance, breaches due to employee error, natural disasters, telecommunications failure, at our facilities or at third-party locations.

The General Data Protection Regulation, or GDPR, took effect on May 25, 2018, in the European Union and introduced direct compliance obligations for data controllers and data processors. National Data Protection Agencies, or NDPAs, are now able to impose fines for violations ranging from 2% to 4% of annual worldwide turnover, or 10 million to 20 million euro, whichever is greater. NDPAs have the power to carry out audits, request information, and obtain access to premises. Businesses must be able to demonstrate that the personal data of any data subject can be lawfully processed on one of the six specified grounds. The GDPR adopts a risk-based approach to compliance, under which businesses bear responsibility for assessing the degree of risk that their processing activities pose to data subjects. Businesses are required to perform data protection impact assessments before any processing that uses new technology and is likely to result in a high risk to data subjects. The GDPR requires businesses to maintain records of their processing activities. Clear rules around data breach notifications and the processing of personal data in such a manner that the personal data can no longer be attributed to a specific individual have been set out by the GDPR. In addition, under the GDPR, data subjects have new rights, for example, the right to request that businesses delete their personal data (the right to be forgotten); to object to their personal data being processed; and to obtain a copy of their personal data within a set time frame.

Complying with these varying requirements could cause us to incur substantial costs or require us to change our business practices in a manner adverse to our business. Any failure, or perceived failure, by us to comply with any regulatory requirements or international privacy or consumer protection-related laws and regulations could result in proceedings or actions against us by governmental entities or others, subject us to significant penalties and negative publicity and adversely affect us. In addition, as noted above, we are subject to the possibility of security breaches, which themselves may result in a violation of these laws.

Any failure, breach or unauthorized access to our or third-party systems could result in the loss of confidential, sensitive or proprietary information, interruptions in our service or production or otherwise our ability to conduct business operations, and could result in potential reductions in revenue and profits, damage to our reputation or liability. There can be no assurance that our protective measures will prevent or timely detect security breaches that could have a significant impact on our business, reputation, operating results and financial condition.

In addition, our JDL Technologies subsidiary provides IT services for the Company internally and for third party customers. As we continue to direct a portion of our JDL sales efforts toward Cloud solutions, we expect to store, convey and potentially process increasing amounts of data produced by customer devices. This data may include confidential or proprietary information, intellectual property or personally identifiable information of our customers or other third parties with whom they do business. It is important that we maintain solutions and related infrastructure that are perceived by our customers and other parties with whom we do business as providing a reasonable level of reliability and security. Despite any available security measures and other precautions that we deploy, the infrastructure and transmission methods we use directly or through third-parties, may be vulnerable to interception, attack or other disruptive problems. Continued high-profile data breaches at other companies evidence an external environment that is becoming increasingly hostile to information security. Improper disclosure of data or perception that our data security is insufficient could harm our reputation, give rise to legal proceedings, and subject our company to liability under laws that protect data, any of which could result in increased costs and loss of revenue.

If a cyberattack or other security incident were to allow unauthorized access to or modification of our customers' data or our own data, whether due to a failure with our systems or related systems operated by third parties, we could suffer damage to our brand and reputation. The costs we would incur to address and fix these incidents would increase our expenses. These types of security incidents could also lead to lawsuits, regulatory investigations and increased legal liability, including in some cases contractual costs related to customer notification and fraud monitoring. Further, as regulatory focus on privacy and data security issues continues to increase and worldwide laws and regulations concerning the protection of information become more complex, the potential risks and costs of compliance to our business will intensify.

Our financial results could be adversely affected if one or more of our key customers substantially reduces orders for our products.

Traditionally, we have derived a large portion of our revenues from a relatively small number of customers, with our top ten customers accounting for 65%, and 70% of net sales for 2018 and 2017, respectively. In fiscal 2018, one Transition Networks' customer accounted for 11% of consolidated sales. In fiscal 2018 and 2017, one Suttle customer accounted for approximately 10% of consolidated sales. In fiscal 2017, a JDL customer accounted for 9.9% of our consolidated sales. The loss of or a substantial reduction in purchases by any one or more of our top customers could have a material adverse effect on our business, financial position and results of operations.

Our market is subject to rapid technological change and, to compete effectively, we must continually introduce new products that achieve market acceptance.

The enterprise network and communications equipment industry is characterized by rapid technological changes, evolving industry standards, changing market conditions, short product life cycles, rapidly changing customer requirements, and frequent new product and service introductions and enhancements. The introduction of products using new technologies or the adoption of new industry standards can make our existing products, or products under development, obsolete or unmarketable. Our future success will depend on our ability to enhance our existing products, to introduce new products to meet changing customer requirements and emerging technologies, and to demonstrate the performance advantages and cost-effectiveness of our products over competing products. Our failure to modify our products to support new alternative technologies or failure to achieve widespread customer acceptance of these modified products could cause us to lose market share and cause our revenues to decline.

We may not predict technological trends or the success of new products in the enterprise network and communications equipment markets accurately. New product development often requires forecasting of market trends, development and implementation of new technologies and processes and capital commitments. We do not know whether other new products we develop will gain market acceptance or result in profitable sales.

Some competitors have greater engineering and product development resources. Although we expect to continue to invest significant resources in product development activities, our efforts to achieve and maintain profitability will require us to be selective and focused with our research and development expenditures. If we fail to anticipate or respond in a cost-effective and timely manner to technological developments, changes in industry standards or customer requirements, or if we experience any significant delays in product development or introduction, our business, operating results and financial condition could be affected adversely.

We may experience delays in developing and marketing product enhancements or new products that respond to technological change, evolving industry standards and changing customer requirements. We cannot ensure that we will not experience difficulties that could delay or prevent the successful development, introduction, and marketing of these products or product enhancements, or that our new products and product enhancements will adequately meet the requirements of the marketplace and achieve any significant or sustainable degree of market acceptance in existing or additional markets. In addition, the future introductions or announcements of products by us or one of our competitors embodying new technologies or changes in industry standards or customer requirements could render our then-existing products obsolete or unmarketable. We cannot ensure that the introduction or announcement of new product offerings by us or one or more of our competitors will not cause customers to defer their purchase of our existing products, which could cause our revenues to decline.

Our business units are dependent upon federal government spending.

Our JDL Technologies and Transition Networks business units are involved in projects that receive much of their funding from the United States federal government. To the extent that federal government spending is delayed or curtailed by government actions, our revenues and operating results may be adversely affected.

We evaluate and frequently pursue acquisitions, but we may not successfully close these acquisitions and, if these acquisitions are completed, we may have difficulty integrating the acquired businesses with our existing operations.

We regularly consider the acquisition of complementary companies and product lines. We cannot, however, ensure that we will be able to find appropriate candidates for acquisitions, reach agreement to acquire them, or obtain any required shareholder or regulatory approvals needed to close strategic acquisitions, despite the effort and management attention invested.

The impact of future acquisitions on our business, operating results and financial condition is uncertain. In the case of businesses we may acquire in the future, we may have difficulty assimilating these businesses and their products, services, technologies and personnel into our operations. These difficulties could disrupt our ongoing business, distract our management and workforce, increase our expenses and materially adversely affect our operating results and financial condition. Also, we may not be able to retain key management and other critical employees after an acquisition. We may also acquire unanticipated liabilities. In addition to these risks, we may not realize all of the anticipated benefits of these acquisitions.

Our operating results fluctuate from quarter to quarter.

Our operating results are difficult to predict and may fluctuate significantly from quarter to quarter. Fluctuations in our quarterly operating results may be caused by many factors, including the following:

the volume and timing of customer orders and our ability to fulfill those orders in a timely manner

the overall level of capital expenditures by our customers

work stoppages and other developments affecting the operations of our customers

our ability to obtain new customers and customer contracts

the timing of our revenue recognition

the timing of our new product and service introductions

the availability of products and services we need from our suppliers

market acceptance of new and enhanced versions of our products and services

variations in the mix of products and services we sell

the timing of federal and state government funding of projects

the location and utilization of our production capacity and employees and

the availability and cost of key components of our products.

Our expense levels are based in part on expectations of future revenues. If revenue levels in a particular quarter are lower than expected, our operating results will be affected adversely.

We depend on OEM/ODM relationships and on limited-source suppliers and any disruptions in these relationships may cause damage to our customer relationships.

We procure all parts and certain services involved in the production of our products from, and subcontract much of our product manufacturing to outside firms that specialize in these services. Although most of the components of our products are available from multiple vendors, we have several single-source supplier relationships, either because alternative sources are not available or because the relationship is advantageous to us. We cannot ensure that our suppliers will be able to meet our future requirements for products and components in a timely fashion. In addition, the availability of many of these components to us is dependent in part on our ability to provide our suppliers with accurate forecasts of our future requirements. Delays or lost sales could be caused by other factors beyond our control, including defects in the quality of components or products supplied by others.

We are dependent upon our senior management and other critical employees.

Like all companies, our success depends on the efforts and abilities of our senior management personnel and other critical employees, including those in sales, marketing and product development functions. Our ability to attract, retain and motivate these employees is critical to our success. In addition, because we may acquire one or more businesses in the future, our success may depend, in part, upon our ability to retain and integrate our own personnel with personnel from acquired entities that are necessary to the continued success or the successful integration of the acquired businesses.

Managing our inventory is complex and may include write-downs of excess or obsolete inventory.

Managing our inventory of components and finished products is complicated by a number of factors, including the need to maintain a significant inventory of finished goods for orders we anticipate but do not receive. These issues may cause us to purchase and maintain significant amounts of inventory. If this inventory is not used as expected based on anticipated requirements, it may become excess or obsolete. The existence of excess or obsolete inventory can result in sales price reductions or inventory write-downs, which could adversely affect our business and results of operations.

We face risks associated with expanding our sales outside of the United States.

We believe that our future growth depends in part upon our ability to increase sales in international markets. These sales are subject to a variety of risks, including fluctuations in currency exchange rates, tariffs, import restrictions and other trade barriers, unexpected changes in regulatory requirements, longer accounts receivable payment cycles, potentially adverse tax consequences, and export license requirements. In addition, we are subject to the risks inherent in conducting business internationally, including political and economic instability and unexpected changes in diplomatic and trade relationships. We cannot ensure that one or more of these factors will not have a material adverse effect on our business strategy and financial condition.

Our failure to achieve and maintain effective internal controls could limit our ability to detect and prevent fraud and thereby adversely affect our business and stock price.

We have incurred, and expect to continue to incur, significant continuing costs, including accounting fees and staffing costs, to maintain compliance with the internal control requirements of the Sarbanes-Oxley Act of 2002. Expansion of our business, particularly internationally, would require ongoing changes to our internal control systems, processes and information systems. In addition, if we complete future acquisitions, our ability to integrate operations of the acquired company could affect our continued compliance with the internal control requirements of the Sarbanes-Oxley Act.

We maintain internal controls to generate reliable financial reports. All internal control systems, no matter how well designed, have inherent limitations. Even those systems determined to be effective can provide only reasonable assurance with respect to the consolidated financial system preparation and presentation. Our inability to maintain an effective control environment may cause investors to lose confidence in our reported financial information, which could in turn have a material adverse effect on our stock price.

While reviewing our internal controls over financial reporting for the year ended December 31, 2017, we determined we had a material weakness in internal controls related to the impairment analysis of long-lived assets due to (i) our failure to review, in sufficient detail, our analysis and the basis for our conclusion that our goodwill was not impaired, and (ii) our failure to review, in sufficient detail, our analysis and the basis for our conclusion that the fixed assets at one of our business units were not impaired. To address the above, in 2018 we designed, implemented and tested new review controls to value our business units to ensure that long-lived asset impairment analyses are completed in a timely manner and in enough detail to operate at a sufficient level of precision to identify improper assumptions. We concluded that we had remediated this material weakness at December 31, 2018.

Product defects or the failure of our products to meet specifications could cause us to lose customers and revenue or to incur unexpected expenses.

If our products do not meet our customers' performance requirements, our customer relationships may suffer. Also, our products may contain defects or fail to meet product specifications. Any failure or poor performance of our products could result in:

- delayed market acceptance of our products
- delayed product shipments
- unexpected expenses and diversion of resources to replace defective products or identify and correct the source of errors
- damage to our reputation and our customer relationships
- delayed recognition of sales or reduced sales, and
- product liability claims or other claims for damages that may be caused by any product defects or performance failures.

Our sales and operations may continue to be adversely affected by current global economic conditions.

Over the past several years, financial markets globally have experienced periods of extreme disruption. These have included, among other things, extreme volatility in securities prices, severely diminished liquidity and credit availability, ratings downgrades of some investments and declining valuations of others, tariffs on imports and exports. The frequency, severity and duration of these disruptions in the financial markets and the global economy are unknown. We cannot ensure that there will not be a further deterioration in financial markets and in business conditions generally. These economic developments have adversely affected our business in a number of ways and will likely continue to adversely affect our business during the foreseeable future.

Risks Related to Our Common Stock

Our stock price has been volatile historically and the price of our common stock may fluctuate significantly in the future.

The trading price of our common stock has been and may continue to be subject to wide fluctuations. Our stock price may fluctuate in response to a number of events and factors, such as quarterly variations in operating results, announcements of technological innovations or new products by us or our competitors, the operating and stock price performance of other companies that investors may deem comparable to us, and new reports relating to trends in our markets or general economic conditions.

In addition, the stock market in general, and prices for companies in our industry in particular, have experienced extreme volatility that often has been unrelated to the operating performance of these companies. These broad market and industry fluctuations may adversely affect the price of our common stock, regardless of our operating performance.

Anti-takeover provisions in our charter documents, our shareholder rights agreement and Minnesota law could prevent or delay a change in control of our company.

Provisions of our articles of incorporation and bylaws, our shareholder rights agreement (also known as a “poison pill”) and Minnesota law may discourage, delay or prevent a merger or acquisition that a shareholder may consider favorable, and could limit the price that investors are willing to pay for our common stock. These provisions include the following:

advance notice requirements for shareholder proposals

authorization for our Board of Directors to issue preferred stock without shareholder approval

authorization for our Board of Directors to issue preferred stock purchase rights upon a third party’s acquisition of 16.5% or more of our outstanding shares of common stock;

limitations on business combinations with interested shareholders and a super majority vote by shareholders is required to approve certain corporate actions, including merger transactions.

Some of these provisions may discourage a future acquisition of our company even though our shareholders would receive an attractive value for their shares, or a significant number of our shareholders believe such a proposed transaction would be in their best interest.

The payment and amount of future dividends is subject to Board of Director discretion and to various risks and uncertainties.

The payment and amount of future quarterly dividends is within the discretion of the Board of Directors and will depend on factors the Board deems relevant at the time declaration of a dividend is considered. These factors include, but are not limited to: available cash; management's expectations regarding future performance and free cash flow; alternative uses of cash to fund R&D expenditures and capital expenditures required to fund future growth; and, the effect of various risks and uncertainties described in this "Risk Factors" section.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

CSI conducts administrative, manufacturing and engineering functions at the following facilities:

- The Company owns a 105,000 square foot building in Minnetonka, Minnesota where its executive and administrative offices are located. Transition Networks uses this facility for its warehouse, assembly, engineering and administrative operations. JDL Technologies uses this facility for some administrative operations. Suttle uses this facility for its sales, marketing and product development. In August of 2018, the Company entered into an agreement to sell its Minnetonka headquarters. There are several contingencies because of the due diligence to be completed by the buyer. If the sale proceeds, the Company expects the closing would occur in the second half of 2019 or early in 2020.

- The Company owns three buildings in Hector, Minnesota totaling 109,000 square feet of manufacturing space situated on approximately 5 acres for its Suttle operations.

- JDL leases 3,700 square feet of office space in Fort Lauderdale, Florida.

- Net2Edge leases 5,500 square feet of office space in Basingstoke, Hampshire, U.K.

CSI believes these facilities will be adequate to accommodate its administrative, manufacturing and distribution needs for the foreseeable future.

ITEM 3. LEGAL PROCEEDINGS

The Company is subject to claims and lawsuits that have been filed in the ordinary course of business. From time to time, the Company brings suit against others to enforce contract rights or property rights, or to collect debts in the ordinary course of business. Management believes that the resolution or settlement of any pending litigation will not have a material adverse effect on the results of operations or liquidity of the Company.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASE OF EQUITY SECURITIES

Market Information

The Company's common stock trades on the Nasdaq Capital Market under the trading symbol JCS.

Holders

At March 1, 2019 there were approximately 520 registered holders of record of Communications Systems, Inc. common stock.

Information Regarding Equity Compensation Plans

The following table presents information about the Company's equity compensation plans, under which equity securities of the Company are authorized for issuance, as of December 31, 2018:

Securities Authorized for Issuance Under Equity Compensation Plans

Plan Category (1)	**Number of shares of common stock to be issued upon exercise of outstanding options, warrants and rights**	**Weighted-average exercise price of outstanding options warrants and rights**	**Number of shares of common stock available for future issuance under equity compensation plans (excluding shares in column (a))**
Equity compensation plans approved by security holders:			
1992 Stock Plan-Nonemployee Director Plan	36,000	$10.78	—
1990 Employee Stock Purchase Plan	13,421	$1.73	23,591
2011 Executive Incentive Compensation Plan	1,614,558	$6.96	676,887
Equity compensation plans not approved by security holders:			

None

(1)

The Company does not have individual compensation arrangements involving the grant of options, warrants and rights, but only grants equity awards under shareholder-approved plans.

Five-year Performance Graph

Not applicable because the Company is a smaller reporting company.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data has been derived from our consolidated financial statements and should be read in conjunction with the Consolidated Financial Statements and related notes thereto set forth in Item 8 and with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in Item 7 of this Annual Report on Form 10-K.

COMMUNICATIONS SYSTEMS, INC. AND SUBSIDIARIES

SELECTED FINANCIAL INFORMATION

(in thousands, except per share amounts)

	Year Ended December 31				
	2018	2017	2016	2015	2014
Selected Income Statement Data					
Sales	$65,763	$82,323	$99,353	$107,670	$119,071
Cost of sales	44,456	61,487	72,771	76,123	76,913
Gross Profit	21,307	20,836	26,582	31,547	42,158
Costs and Expenses:					
Selling, general and administrative expenses	27,501	28,699	35,186	40,830	38,628
Additional minimum pension liability adjustments[1]	—	—	(4,148)	—	—
Pension settlement costs	—	—	—	1,222	—
Impairment loss	—	1,617	—	—	—
Restructuring expense	364	2,285	—	—	238
Total operating expenses	27,865	32,601	31,038	42,052	38,866
Operating (Loss) Income	(6,558)	(11,765)	(4,456)	(10,505)	3,292
Other (Expense) Income, Net[1]	171	(95)	(3,400)	104	(112)
(Loss) Income Before Income Taxes	(6,387)	(11,860)	(7,856)	(10,401)	3,180
Income Tax (Benefit) Expense	405	(34)	257	(753)	1,219
Net (Loss) Income	$(6,792)	$(11,826)	$(8,113)	$(9,648)	$1,961
Basic Net (Loss) Income Per Share	$(0.75)	$(1.32)	$(0.92)	$(1.11)	$0.23
Diluted Net (Loss) Income Per Share	$(0.75)	$(1.32)	$(0.92)	$(1.11)	$0.23
Cash Dividends Declared Per Share	$0.14	$0.16	$0.40	$0.64	$0.64
Weighted Average Diluted Shares Outstanding	9,109	8,943	8,832	8,720	8,640
Selected Balance Sheet Data					
Total Assets	$53,321	$58,146	$73,177	$87,916	$100,286

Property, Plant and Equipment, Net	10,962	12,625	15,719	17,468	18,153
Long-term Liabilities	28	15	176	290	1,271
Stockholders’ Equity	41,653	49,171	61,633	72,185	86,020

[1] As part of the settlement of our pension plan, the Company recorded $4.1 million in pension liability gains previously recorded in accumulated other comprehensive income within operating expenses during 2016. Additionally, in 2016 the Company recognized $4.2 million in foreign currency translation losses within Other (Expense) Income due to the substantial liquidation of our Austin Taylor subsidiary in the U.K.

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

Overview

Communications Systems, Inc. provides physical connectivity infrastructure products and services for global deployments of broadband networks through the following business units:

Transition Networks

With over 30 years of growth and expertise in hardware and software development, Transition Networks offers customers the ability to affordably integrate the benefits of fiber optics into any data network, in any application, and in any environment. Offering support for multiple protocols, any interface, and a multitude of hardware platforms, Transition Networks' portfolio gives customers the power to deliver and manage network traffic reliably over fiber. Transition Networks distributes hardware-based connectivity solutions through a network of resellers in over 90 countries.

Suttle

Founded in 1910, Suttle provides network solutions that meet service providers' needs at the edge of the network and inside the home/business. Suttle's product portfolio incorporates technology that leverages existing infrastructure and lays the foundation for future growth. Products are designed to comply with the most stringent industry standards. Quality management systems are ISO 9001 and TL9000 certified. Suttle's newest brands are FutureLink™ and MediaMAX™. FutureLink™ provides high-speed connectivity solutions in the last mile of a network. The FutureLink™ Stackable Fiber Interface Terminal (SFIT)—among other platforms that feature grow-as-you-go capability—is part of Suttle's FTTx solution. MediaMAX™ is designed for gigabit services for the connected home/business. MediaMAX™ optimizes installation cost while maximizing coverage and high-bandwidth.

JDL Technologies

JDL Technologies provides technology services and infrastructure to the commercial, healthcare and education market segments. JDL's portfolio of technology solutions includes managed services, virtualization and cloud solutions, wired and wireless network design and implementation services, and converged infrastructure configuration and deployment. JDL has provided many of these technology services to one of the largest school districts in the US for more than a decade, and also provides these services to a number of commercial and healthcare clients.

Net2Edge

Net2Edge designs, assembles and sells Ethernet based switches based around the international MEF standards. Those products range from legacy over packet interfaces such as Serial, TDM or ISDN and Native Ethernet from 1G to 10G. Net2Edge targets these products at telecommunications service providers as Network Interface Devices. By design, the products transmit data from the subscriber enterprise to the provider edge, usually a router. The products are sophisticated, carrying multiple services with definable quality of service metrics over fiber optic paths. These products assist in resolving challenges in the areas of bandwidth constraints, security risks, and distance limitations as networks extend from local area to wide area networks and adapt to ever increasing end-user demands. As enterprise networks continue to change and evolve, our solutions enable customers to integrate multiples services into their existing infrastructure. All Net2Edge products incorporate features for performing advanced levels of fault management and automated provisioning minimizing the administrative burden of the operator.

Key 2018 Developments

The Company’s 2018 sales were $65.8 million, a 20% decrease from 2017 sales of $82.3 million.

The Company’s 2018 net loss was $6.8 million, or ($0.75) per diluted share, compared to net loss of $11.8 million or ($1.32) per diluted share in fiscal 2017.

At 2018 year end, the Company had cash, cash equivalents and investments of $11.1 million and positive working capital of $30.7 million compared to cash, cash equivalents and investments of $18.0 million and working capital of $36.5 million at December 31, 2017.

Transition Networks sales decreased 5% to $36.5 million in 2018 from $38.5 million in 2017. Transition had increased operating income of $1.9 million in 2018, however, compared to operating income of $1.4 million in 2017.

Suttle sales decreased 28% to $23.4 million in 2018 from $32.4 million in 2017. Suttle incurred $2.3 million in restructuring expense in 2017 related to the planned closure of its Costa Rica facility. Suttle had an operating loss of $5.1 million in 2018 compared to an operating loss of $9.8 million in 2017.

JDL Technologies sales decreased 54% to $5.1 million in 2018 from $11.2 million in 2017. JDL had an operating loss of $0.6 million in 2018 compared to an operating loss of $0.8 million in 2017, due to a $1.5 million goodwill impairment loss recognized in the second quarter of 2017.

Net2Edge sales increased 58% to $1.7 million in 2018 from $1.1 million in 2017. Net2Edge had an operating loss of $2.8 million in 2018 compared to an operating loss of $2.6 million in 2017.

Forward Looking Statements

In this report and from time to time, in reports filed with the Securities and Exchange Commission, in press releases, and in other communications to shareholders or the investing public, we may make “forward looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. We may make these forward looking statements concerning possible or anticipated future financial performance, business activities, plans, pending claims, investigations or litigation, which are typically preceded by the words “believes,” “expects,” “anticipates,” “intends” or similar expressions. For these forward-looking statements, the Company claims the protection of the safe harbor for forward-looking statements contained in federal securities laws. Shareholders and the investing public should understand that these forward looking statements are subject to risks and uncertainties that could cause actual performance, activities, anticipated results, outcomes or plans to differ significantly from those indicated in the forward-looking statements. For a detailed discussion of a number of these risk factors, please see Item 1A above.

Critical Accounting Policies

Inventory Valuation: We value inventories at the lower of cost or net realizable value. Reserves for excess and obsolescence are estimated and recorded to reduce the carrying value to estimated net realizable value. The amount of the reserve is determined based on historical usage, projected sales information, plans for discontinued products and other factors. Though management considers these reserves adequate and proper, changes in sales volumes due to unexpected economic or competitive conditions are among the factors that could materially affect the adequacy of this reserve.

Income Taxes: In the preparation of the Company’s consolidated financial statements, management calculates income taxes. This includes estimating the Company’s current tax liability as well as assessing temporary differences resulting from different treatment of items for tax and book accounting purposes. These differences result in deferred tax assets and liabilities, which are recorded on the balance sheet. These assets and liabilities are analyzed regularly and management assesses the likelihood it will realize these deferred assets from future taxable income. We determine the valuation allowance for deferred income tax benefits based upon the expectation of whether the benefits are more likely than not to be realized. The Company records interest and penalties related to income taxes as income tax expense in the Consolidated Statements of Income.

Revenue Recognition: The Company recognizes revenue when a customer obtains control of promised goods or services. The amount of revenue recognized reflects the consideration that the Company expects to receive in exchange for these goods or services. In the Suttle, Transition Networks and Net2Edge segments, revenue is recognized upon delivery of the Company's connectivity infrastructure and data transmission products. To determine when revenue should be recognized, it is important to determine when the transfer of control has occurred. The Company has determined that control transfers for these products upon shipment or delivery to the customer, in accordance with the agreed upon shipping terms. As such, the timing of revenue recognition occurs at a specific point in time.

The Company has determined that the following performance obligations identified in its JDL Technologies, Inc. business unit are transferred over time: managed services and professional services (time and materials ("T&M") and fixed price). JDL's managed services performance obligation is a bundled solution, a series of distinct services that are substantially the same and that have the same pattern of transfer to the customer and are recognized evenly over the term of the contract. T&M professional services arrangements are measured over time with an input method based on hours expended towards satisfying this performance obligation. Fixed price professional service arrangements under a relatively longer-term service will also be measured over time with an input method based on hours expended.

The Company has also identified the following performance obligations within its JDL Technologies business unit that are recognized at a point in time which include resale of third-party hardware and software, installation, arranging for another party to transfer services to the customer, and certain professional services. The resale of third-party hardware and software is recognized at a point in time, when the goods are shipped or delivered to the customer's location, in accordance with the shipping terms. Installation services are recognized at a point in time when the services are completed. The service the Company provides to arrange for another party to transfer services to the customer is satisfied at a point in time as the Company has transferred control upon the service first being made available to the customer by the third party vendor, which are required to be presented on a net basis. Depending on the nature of the service, certain professional services transfer control at a point in time. The Company evaluates these circumstances on a case by case basis to determine if revenue should be recognized over time or at a point in time.

Results of Operations

2018 Compared to 2017

Consolidated sales were $65,763,000 in 2018, a 20% decrease from sales of $82,323,000 in 2017. Net loss in 2018 was $6,792,000, or ($0.75) per share compared to net loss of $11,826,000 or ($1.32) per share in 2017.

Transition Networks Results

Transition Networks develops, markets, and sells active networking hardware devices. Characteristics of this business include a rapid pace of change in technologies and alternative solutions to our products. Transition Networks derives the majority of its revenues from customer network upgrade projects, which tend not to recur. The core markets for these products are enterprise, service providers, government, and industrial users. Roughly 85% of Transition Networks revenue comes from North America, but we continue to see opportunity for long-term growth outside of North America and we continue to invest resources in sales, marketing, and infrastructure to grow that business.

Transition Networks sales decreased 5% to $36,470,000 in 2018 compared to $38,541,000 in 2017. Transition Networks organizes its sales force by vertical markets and segments its customers geographically. Sales by customer groups in 2018 and 2017 were:

Transition Networks
Sales by Region

	2018	2017
North America	$31,059,000	$31,261,000
EMEA	2,017,000	2,314,000
Rest of world (“ROW”)	3,394,000	4,966,000
	$36,470,000	$38,541,000

The following table summarizes Transition Networks’ 2018 and 2017 sales by product group:

	Transition Networks Sales by Product Group	
	2018	2017
Media converters	$20,226,000	$21,670,000
Ethernet switches and adapters	9,694,000	8,699,000
Other products	6,550,000	8,172,000
	$36,470,000	$38,541,000

Sales in North America decreased 1% or $202,000 in 2018 compared to 2017 due to decreased activity with a major carrier customer, partially offset by strong demand in the federal government sector. International sales decreased $1,869,000, or 26%, due to weakness related to slower adoption of new products. In ROW, some of our customers are now being serviced by our UK-based Net2Edge business unit, which accounted for some of the decline. Sales of media converters decreased 7% or $1,444,000 due to decreased activity at a major carrier customer. Sales of Ethernet switches and adapters increased 11% or $995,000 due to strong activity in the federal government sector. All other products decreased 20% or $1,622,000, due to slower spending from major carrier customers.

Gross margin remained flat at $16,695,000 in 2018 compared to $16,762,000 in 2017. Gross margin as a percentage of sales increased to 46% in 2018 from 43% in 2017 due to improved pricing from suppliers.

Selling, general and administrative expenses decreased 4% to $14,812,000, or 41% of sales, in 2018 from $15,371,000, or 40% of sales in 2017 due to a continued focus on expense management. Operating income was $1,883,000 in 2018 compared to operating income of $1,391,000 in 2017.

Suttle Results

Suttle sales decreased 28% to $23,410,000 in 2018 compared to $32,384,000 in 2017 due to lower sales to Tier 1 service providers from volume declines in legacy products, and a shift in purchasing decisions from Tier 1 telecommunications suppliers to installers. Sales by product groups in 2018 and 2017 were:

	Suttle Sales by Product Group	
	2018	**2017**
Structured cabling and connecting system products	$21,753,000	$29,932,000
DSL and other products	1,657,000	2,452,000
	$23,410,000	$32,384,000

Suttle's sales by customer groups in 2018 and 2017 were:

	Suttle Sales by Customer Group	
	2018	**2017**
Communication service providers	$19,370,000	$29,071,000
Distributors	2,095,000	2,557,000
International	1,945,000	756,000
	$23,410,000	$32,384,000

Sales to the major communication service providers decreased 33% to $19,370,000 in 2018 compared to $29,071,000 in 2017 due to decreased demand for legacy products during the switch to fiber-based network architectures. Sales to these customers accounted for 83% of Suttle's sales in 2018 and 90% in 2017. Sales to distributors decreased 18% due to decreased demand from service providers that are being served by the channel, and accounted for 9% of sales in 2018 compared to 8% in 2017. International sales accounted for 8% of Suttle's 2018 sales and increased 157% compared to 2017 due to the execution of key projects by major service providers in Central America.

Sales of structured cabling and connecting system products decreased 27% primarily due to the changing product mix and the shift in purchasing decisions from Tier 1 telecommunications suppliers to installers. Sales of DSL and other products decreased 32% due to major technology changes implemented by service providers reflected by a switch to fiber-based network architectures.

Suttle's gross margin increased 160% to $3,685,000 in 2018 compared to $1,420,000 in 2017. Gross margin as a percentage of sales increased to 16% in 2018 as compared to 4% in 2017 primarily due to large adjustments in the prior year, including a $417,000 write off of prepaid royalties under a product development agreement and increases to the inventory reserves, driven by Suttle's decision to discontinue certain legacy products. The margin impact of excess and obsolete inventory adjustments was $1,100,000 in 2018 (4.7% of sales) compared to $4,214,000 (13.0% of sales) in 2017.

Selling, general and administrative expenses decreased $507,000, or 6% to $8,393,000, or 36% of sales, in 2018 compared to $8,900,000 in 2017, or 27% of sales, due to reduced research and development expenditures and ongoing expense control measures. Suttle incurred $244,000 and $528,000 in research and development expenses in 2018 and 2017, respectively. Suttle incurred $364,000 in restructuring expense related to organization changes in 2018 as compared to $2,285,000 in 2017 related to the planned closure of its Costa Rica facility.

Suttle had an operating loss of $5,072,000 in 2018 compared to an operating loss of $9,765,000 in 2017.

JDL Technologies, Inc. Results

Sales by JDL Technologies decreased 54% to $5,134,000 in 2018 compared to $11,210,000 in 2017. The following table summarizes JDL's revenues by customer group in 2018 and 2017:

	JDL Revenue by Customer Group	
	2018	2017
Education	$2,651,000	$8,160,000
Healthcare and commercial clients	2,483,000	3,050,000
	$5,134,000	$11,210,000

Revenues from the education sector decreased $5,509,000 or 68% in 2018 due to a decrease in the number of network related projects completed during the year and a delay in the approval of the federal funding for the 2017-2018 funding cycle, which were ultimately resolved in the fourth quarter of 2018. Federal and local funding for public school district investments in IT infrastructure and services varies substantially from year to year, and JDL Technologies expects to continue to experience notable swings in quarterly and annual revenues as a result.

Revenue from JDL Technologies' sales to small and medium-sized commercial businesses (SMBs), which are primarily healthcare and commercial clients, decreased by 19% or $567,000 due to the expiration of two large customer contracts late in 2017.

JDL gross margin decreased 53% to $1,304,000 in 2018 compared to $2,773,000 in 2017. Gross margin as a percentage of sales remained flat at 25% in 2018 and 2017.

Selling, general and administrative expenses decreased 11% in 2018 to $1,879,000, or 37% of sales, compared to $2,101,000 in 2017, or 19% of sales due to cost saving measures implemented over the past year. JDL reported an operating loss of $575,000 in 2018 compared to an operating loss of $791,000 in 2017, which included a $1,463,000 goodwill impairment loss recognized in the second quarter of 2017.

JDL Technologies continues to aggressively leverage opportunities to provide managed services, cloud migration and virtualization services, HIPAA-compliant technology services, and other network and infrastructure services to the commercial and healthcare markets. This strategic, multiyear plan to reduce the impact of volatile government funding is beginning to produce results.

Net2Edge Results

Net2Edge's sales increased 58% to $1,700,000 in 2018 compared to $1,079,000 in 2017, due to revenue from established CSI accounts with new higher featured products. Gross margin decreased 29% to $485,000 in 2018 compared to $681,000 in 2017. Gross margin as a percentage of sales decreased to 29% in 2018 from 63% in 2017, due to product mix and additional costs incurred to expedite product shipments. Selling, general and administrative expenses increased 5% to $3,279,000 in 2018 compared to $3,127,000 in 2017 due to increased spending on engineering and research and development on new products. Net2Edge reported an operating loss of $2,794,000 in 2018 compared to a loss of $2,600,000 in 2017, which included a $154,000 impairment loss related to intangible assets during the second quarter of 2017.

Income Taxes

The Company's loss before income taxes was $6,386,000 in 2018 compared to a loss before income taxes of $11,860,000 in 2017. The Company's effective income tax rate was -6% in 2018 compared to 0% in 2017. The 2018 effective rate differed from the standard rate of 21% primarily due to the valuation allowances related to deferred tax assets, along with the impact of state income taxes, foreign tax rate differences, foreign losses not deductible for U.S. income tax purposes, provisions for interest charges for uncertain income tax positions, and write off of prior year USVI refund receivables. See Note 10 for a reconciliation of the standard tax rate to the Company's effective tax rate for 2018 and 2017.

<u>Acquisitions and Dispositions</u>

The Company is a growth-focused manufacturer of telecommunications connecting and networking devices. The Company continually searches for acquisition candidates with products that would enable the Company to better serve its target markets.

Effects of Inflation

Inflation has not had a significant effect on operations in recent years. The Company does not have long-term production or procurement contracts and has historically been able to adjust pricing and purchasing decisions to respond to inflationary pressures.

Liquidity and Capital Resources

As of December 31, 2018, the Company had approximately $11,056,000 in cash, cash equivalents and investments. Of this amount, $8,428,000 was invested in short-term money market funds that are not considered to be bank deposits and are not insured or guaranteed by the FDIC or other government agency. These money market funds seek to preserve the value of the investment at $1.00 per share; however, it is possible to lose money investing in these funds. The remainder in cash and cash equivalents is operating cash.

The Company had working capital of $30,695,000, consisting of current assets of approximately $42,335,000 and current liabilities of $11,640,000 at December 31, 2018 compared to working capital of $36,506,000, consisting of current assets of $45,466,000 and current liabilities of $8,960,000 at the end of 2017.

Cash flow used in operating activities was approximately $4,723,000 in 2018 compared to $3,650,000 provided in 2017. Significant working capital changes from 2017 to 2018 included an increase in inventories of $2.2 million in receivables of $1.2 million, offset by an increase in other accrued liabilities of $1.6 million.

Cash provided by investing activities was $4,812,000 in 2018 compared to cash used of $294,000 in 2017, due to proceeds from the sale of investments.

Net cash used by financing activities was $1,417,000 in 2018 compared to $1,361,000 in 2017. Cash dividends paid on common stock increased slightly to $1,493,000 in 2018 ($0.16 per common share) from $1,458,000 in 2017 ($0.16 per common share). Proceeds from common stock issuances, principally shares sold to the Company’s Employee Stock Ownership Plan and issued under the Company’s Employee Stock Purchase Plan, totaled approximately $104,000 in 2018 and $106,000 in 2017 net of acquisitions of Company stock from employees to satisfy withholding tax obligations related to share-based compensation, under Board and shareholder-approved compensation plans. The Company did not repurchase any shares in 2018 or 2017 under the Board authorized program. At December 31, 2018, Board of Director authority to purchase approximately 411,910 additional shares remained in effect.

The Company has a $15,000,000 credit facility from Wells Fargo Bank. The Company had no outstanding obligations under this credit facility at December 31, 2018 or 2017. The total amount available for borrowings under this credit facility at December 31, 2018 was $9,728,000, based on the borrowing base calculation. Interest on borrowings on the credit line is currently set at LIBOR plus 2.0% (4.5% at December 31, 2018). The credit agreement expires August 12, 2021 and is secured by assets of the Company. In the opinion of management, based on the Company's current financial and operating position and projected future expenditures, the Company has sufficient funds to meet its current anticipated operating and capital expenditure needs.

Contractual Obligation Summary

The following table summarizes our contractual obligations at December 31, 2018 and the effect these obligations are expected to have on our liquidity and cash flow in future periods:

	Less than One Year	**1 – 3 Years**	**3 – 5 Years**	**More Than 5 Years**
Operating leases	$106,000	$172,000	$172,000	$293,000
Total	$106,000	$172,000	$172,000	$293,000

As of December 31, 2018, the Company had no other material commitments (either cancelable or non-cancelable) for capital expenditures, short or long term debt, capital leases or other purchase commitments related to ongoing operations.

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New Accounting Pronouncements

See Note 1 of the “Notes to the Consolidated Financial Statements” under Item 8 herein for a discussion of new accounting standards.

Off Balance Sheet Arrangements

None.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company has no freestanding or embedded derivatives. The Company’s policy is to not use freestanding derivatives and to not enter into contracts with terms that cannot be designated as normal purchases or sales.

The vast majority of our transactions are denominated in U.S. dollars. Although products sold by our Net2Edge subsidiary are generally denominated in British pounds, Net2Edge sales represented less than 3% of our consolidated net sales in 2018 and 2017. Therefore, fluctuations in foreign currency exchange rates have historically not been material to the Company.

At December 31, 2018, our bank line of credit carried a LIBOR rate plus 2.0%. The Company’s investments are money market, certificates of deposit, commercial paper, and corporate notes and bonds types of investments that earn interest at prevailing market rates and as such do not have material risk exposure.

Based on the Company’s operations, in the opinion of management, the Company is not exposed to material future losses due to market risk.

The Company used the U.S. dollar as its functional currency in Costa Rica. The Company closed its facility in 2017. Accordingly, the Company believes its risk of material loss due to fluctuations in foreign currency markets to be small, primarily resulting from its Net2Edge operations and sales.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

(a) FINANCIAL STATEMENTS

REPORT OF MANAGEMENT

The management of Communications Systems, Inc. and its subsidiary companies is responsible for the integrity and objectivity of the financial statements and other financial information contained in the annual report. The financial statements and related information were prepared in accordance with accounting principles generally accepted in the United States of America and include amounts that are based on management's informed judgments and estimates.

In fulfilling its responsibilities for the integrity of financial information, management maintains accounting systems and related controls. These controls provide reasonable assurance, at appropriate costs, that assets are safeguarded against losses and that financial records are reliable for use in preparing financial statements. Management recognizes its responsibility for conducting the Company's affairs according to the highest standards of personal and corporate conduct.

The Audit and Finance Committee of the Board of Directors, comprised solely of outside directors, meets with the independent auditors and management periodically to review accounting, auditing, financial reporting and internal control matters. The independent auditors have free access to this committee, without management present, to discuss the results of their audit work and their opinion on the adequacy of internal financial controls and the quality of financial reporting.

/s/ Roger H.D. Lacey	/s/ Mark D. Fandrich
Roger H.D. Lacey	Mark D. Fandrich
Chief Executive Officer	Chief Financial Officer

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the board of directors of Communications Systems, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Communications Systems, Inc. and subsidiaries (the “Company”) as of December 31, 2018 and 2017, the related consolidated statements of loss and comprehensive loss, changes in stockholders’ equity, and cash flows, for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Baker Tilly Virchow Krause, LLP
We have served as the Company's auditor since 2017.
Minneapolis, Minnesota
March 8, 2019

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COMMUNICATIONS SYSTEMS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31 2018	**December 31 2017**
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$11,056,426	$12,453,663
Investments	—	5,540,744
Trade accounts receivable, less allowance for doubtful accounts of $136,000 and $106,000, respectively	13,401,042	12,183,217
Inventories	16,175,616	13,984,428
Prepaid income taxes	148,036	493,834
Other current assets	1,553,972	810,532
TOTAL CURRENT ASSETS	42,335,092	45,466,418
PROPERTY, PLANT AND EQUIPMENT, net	10,962,239	12,624,730
OTHER ASSETS:		
Deferred income taxes	19,068	38,136
Other assets	4,765	16,977
TOTAL OTHER ASSETS	23,833	55,113
TOTAL ASSETS	$53,321,164	$58,146,261
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$5,394,981	$4,554,683
Accrued compensation and benefits	2,892,199	2,422,083
Other accrued liabilities	3,168,049	1,586,473
Dividends payable	184,541	397,151
TOTAL CURRENT LIABILITIES	11,639,770	8,960,390
LONG TERM LIABILITIES:		
Long-term compensation plans	—	11,079
Uncertain tax positions	28,267	4,065
TOTAL LONG-TERM LIABILITIES	28,267	15,144
COMMITMENTS AND CONTINGENCIES (Footnote 7)		
STOCKHOLDERS' EQUITY		
Preferred stock, par value $1.00 per share; 3,000,000 shares authorized; none issued		
Common stock, par value $.05 per share; 30,000,000 shares authorized; 9,158,438 and 8,973,708 shares issued and outstanding, respectively	457,922	448,685
Additional paid-in capital	42,680,499	42,006,750
Retained earnings (accumulated deficit)	(734,001)	7,328,671
Accumulated other comprehensive loss	(751,293)	(613,379)
TOTAL STOCKHOLDERS' EQUITY	41,653,127	49,170,727
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$53,321,164	$58,146,261

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

COMMUNICATIONS SYSTEMS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF LOSS AND COMPREHENSIVE LOSS

	Year Ended December 31	
	2018	**2017**
Sales	$65,762,946	$82,322,618
Cost of sales	44,455,697	61,486,379
Gross profit	21,307,249	20,836,239
Operating expenses:		
Selling, general and administrative expenses	27,501,691	28,699,138
Impairment loss	—	1,617,389
Restructuring expense	363,676	2,284,541
Total operating expenses	27,865,367	32,601,068
Operating loss	(6,558,118)	(11,764,829)
Other income (expenses):		
Investment and other income	299,555	52,992
Loss on sale of assets	(89,550)	(76,870)
Interest and other expense	(38,355)	(71,428)
Other income (expense), net	171,650	(95,306)
Loss from operations before income taxes	(6,386,468)	(11,860,135)
Income tax expense (benefit)	405,267	(34,503)
Net loss	(6,791,735)	(11,825,632)
Other comprehensive (loss) income, net of tax:		
Unrealized gains/(losses) on available-for-sale securities	1,061	(4,566)
Foreign currency translation adjustment	(138,975)	77,848
Total other comprehensive (loss) income	(137,914)	73,282
Comprehensive loss	$(6,929,649)	$(11,752,350)
Basic net loss per share:	$(0.75)	$(1.32)
Diluted net loss per share:	$(0.75)	$(1.32)
Weighted Average Basic Shares Outstanding	9,108,777	8,942,523
Weighted Average Dilutive Shares Outstanding	9,108,777	8,942,523

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

COMMUNICATIONS SYSTEMS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

	Common Stock		**Additional Paid-in**	**Retained Earnings (Accumulated**	**Accumulated Other Comprehensive**	
	Shares	**Amount**	**Capital**	**Deficit)**	**Income (Loss)**	**Total**
BALANCE AT DECEMBER 31, 2016	8,877,379	$443,869	$41,279,281	$20,596,203	$ (686,661)	$61,632,692
Net loss	—	—	—	(11,825,632)	—	(11,825,632)
Issuance of common stock under Employee Stock Purchase Plan	23,660	1,183	103,100	—	—	104,283
Issuance of common stock to Employee Stock Ownership Plan	47,248	2,362	216,396	—	—	218,758
Issuance of common stock under Executive Stock Plan	27,471	1,374	—	—	—	1,374
Share based compensation	—	—	417,489	—	—	417,489
Other share retirements	(2,050)	(103)	(9,516)	1,007	—	(8,612)
Shareholder dividends ($0.16 per share)	—	—	—	(1,442,907)	—	(1,442,907)
Other comprehensive loss	—	—	—	—	73,282	73,282
BALANCE AT DECEMBER 31, 2017	8,973,708	448,685	42,006,750	7,328,671	(613,379)	49,170,727
Net loss				(6,791,735)		(6,791,735)
Issuance of common stock under Employee Stock Purchase Plan	29,614	1,481	100,507	—	—	101,988
Issuance of common stock to Employee Stock Ownership Plan	119,632	5,982	419,908	—	—	425,890
Issuance of common stock under Executive Stock Plan	43,501	2,175	—	—	—	2,175
Share based compensation	—	—	190,721	—	—	190,721
Other share retirements	(8,017)	(401)	(37,387)	9,325	—	(28,463)
Shareholder dividends ($0.14 per share)	—	—	—	(1,280,262)	—	(1,280,262)
Other comprehensive loss	—	—	—	—	(137,914)	(137,914)
BALANCE AT DECEMBER 31, 2018	9,158,438	$457,922	$42,680,499	$(734,001)	$ (751,293)	$41,653,127

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

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COMMUNICATIONS SYSTEMS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31	
	2018	**2017**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$(6,791,735)	$(11,825,632)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation and amortization	2,214,848	3,186,458
Share based compensation	190,721	417,489
Deferred taxes	19,068	(91,134)
Impairment loss	—	1,617,389
Loss on sale of assets	89,550	582,317
Changes in assets and liabilities:		
Trade accounts receivables	(1,237,986)	2,393,310
Inventories	(2,249,296)	8,268,676
Prepaid income taxes	343,381	908,513
Other assets	(749,785)	595,869
Accounts payable	944,052	(2,499,232)
Accrued compensation and benefits	888,376	482,324
Other accrued liabilities	1,591,872	(283,628)
Income taxes payable	24,202	(102,799)
Net cash (used in) provided by operating activities	(4,722,732)	3,649,920
CASH FLOWS FROM INVESTING ACTIVITIES:		
Capital expenditures	(763,627)	(773,367)
Purchases of investments	(6,580,917)	(6,043,715)
Proceeds from the sale of fixed assets	33,763	219,888
Proceeds from the sale of investments	12,122,722	6,303,681
Net cash provided by (used in) investing activities		