

CUBIC CORP /DE/
Form 10-K
November 15, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934

For the Fiscal Year Ended September 30, 2018

Commission File Number 001-08931

CUBIC CORPORATION

Exact Name of Registrant as Specified in its Charter

9333 Balboa Avenue
San Diego, California 92123
Telephone (858) 277-6780

Delaware	95-1678055
State of Incorporation	IRS Employer Identification No.

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

Common Stock	New York Stock Exchange, Inc.
Title of each class	Name of exchange on which registered

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

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

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

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

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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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

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

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

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

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

The aggregate market value of 23,106,683 shares of common stock held by non-affiliates of the registrant was: \$1,469,585,039 as of March 31, 2018, based on the closing stock price on that date. Shares of common stock held by each officer and director and by each person or group who owns 10% or more of the outstanding common stock have been excluded in that such persons or groups may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

Number of shares of common stock outstanding as of November 1, 2018 including shares held by affiliates is: 27,337,991 (after deducting 8,945,300 shares held as treasury stock).

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Registrant's definitive Proxy Statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A in connection with its 2019 Annual Meeting of Shareholders are incorporated by reference into Part III of this Annual Report on Form 10-K. Such Proxy Statement will be filed with the Securities and Exchange Commission subsequent to the date hereof but not later than 120 days after registrant's fiscal year ended September 30, 2018.

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CUBIC CORPORATION

ANNUAL REPORT ON FORM 10-K

For the Year Ended September 30, 2018

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PART I

Item 1. BUSINESS.

GENERAL

CUBIC CORPORATION (Cubic) is a technology-driven, market-leading global provider of innovative, mission-critical solutions that reduce congestion and increase operational readiness and effectiveness through increased situational understanding. Cubic designs, integrates and operates systems, products and services focused in the transportation, command, control, communication, computers, intelligence, surveillance and reconnaissance (C4ISR), and training markets. We offer integrated payment and information systems, expeditionary communications, cloud-based computing and intelligence delivery, as well as state-of-the-art training and readiness solutions. We believe that we have significant transportation and defense industry expertise which, combined with our innovative technology capabilities, contributes to our leading market positions and allows us to deepen and further expand each of our business segments in key markets.

Through September 30, 2017 our principal lines of business were transportation systems and services, defense systems, and defense services. On May 31, 2018, we sold the non-Original Equipment Manufacturer (OEM) Cubic Global Defense Services (CGD Services) business. In March 2018, all of the criteria were met for the classification of CGD Services as a discontinued operation. As a result, the operating results, assets, liabilities, and cash flows of CGD Services have been classified as discontinued operations and have been excluded from amounts described below. In addition, we concluded that Cubic Mission Solutions became a separate operating segment and reportable segment beginning on October 1, 2017. As a result, we now operate in three reportable business segments: Cubic Transportation Systems (CTS), Cubic Global Defense Systems (CGD), and Cubic Mission Solutions (CMS). All of our business segments share a common mission of increasing situational awareness to create enhanced value for our customers worldwide through common technologies. Our defense customers benefit from increased readiness and effectiveness, while our transportation customers benefit from enhanced efficiency and reduced congestion.

CTS provided 56% of our sales in fiscal year 2018. CTS specializes in the design, development, production, installation, maintenance and operation of automated fare payment, traffic management and enforcement solutions, real-time information systems, and revenue management infrastructure and technologies for transportation agencies. As part of our turnkey solutions, CTS also provides these customers with a comprehensive suite of business process outsourcing (BPO) services and expertise, such as card and payment media management, central systems and application support, retail network management, customer call centers and financial clearing and settlement support. As transportation authorities seek to optimize their operations by outsourcing bundled systems and services, CTS has transformed itself from a provider of automated fare collection (AFC) systems into a systems integrator and services company focused on the intelligent transportation market.

CGD provided 27% of our sales in fiscal year 2018. CGD is a leading diversified supplier of live, virtual, constructive and game-based training solutions to the U.S. Department of Defense (DoD), other U.S. government agencies and allied nations. We offer a full range of training solutions for military and security forces. Our customized systems and services accelerate combat readiness in the air, on the ground and at sea while meeting the demands of evolving operations globally. Our range design business offers complete range design solutions for military, law enforcement, special forces and security training centers, including laser-engagement training simulation systems, live-fire range design, exercise planning, expert support and detailed After Action Reviews.

CMS provided 17% of our sales in fiscal year 2018. CMS provides networked command, control, communication, computers, intelligence, surveillance and reconnaissance (C4ISR) capabilities for defense, intelligence, security and commercial missions. CMS' core competencies include protected wide-band communications for C2 & ISR systems, expeditionary satellite communication solutions, real time processing, exploitation and dissemination of full motion video, deployable secure tactical cloud computing, communication gateways, and intelligence, surveillance and reconnaissance (ISR) services.

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We have a broad customer base across our businesses, with approximately 53% of our fiscal year 2018 sales generated from U.S. federal, state and local governments. Approximately 2% of these sales were attributable to Foreign Military Sales, which are sales to allied foreign governments facilitated by the U.S. government. The remainder of our fiscal year 2018 sales were attributable to sales to foreign government and foreign municipal agencies. In fiscal year 2018, 59% of our total sales were derived from products, with services sales accounting for the remaining 41%.

Headquartered in San Diego, California, we had approximately 5,600 employees working on 4 continents and in 22 countries as of September 30, 2018.

In late October 2018, we acquired all of the outstanding capital stock of Advanced Traffic Solutions Inc. (Trafficware), a provider of intelligent traffic solutions for the transportation industry based in Sugar Land, Texas, which provides a fully integrated suite of software, Internet of Things (IoT) devices, and hardware solutions that provide customers with enhanced mobility and safety. The purchase price is \$235.7 million adjusted for the difference between net working capital acquired and a targeted working capital amount.

We were incorporated in the State of California in 1949 and began operations in 1951. In 1984, we moved our corporate domicile to the State of Delaware. Our internet address is www.Cubic.com. The content on our website is available for information purposes only. It should not be relied upon for investment purposes, nor is it incorporated by reference into this Form 10-K. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports can be found on our internet website under the heading “Investor Relations”. We make these reports readily available free of charge in a reasonably practicable time after we electronically file these materials with the Securities and Exchange Commission (the SEC).

BUSINESS SEGMENTS

Information regarding the amounts of revenue, operating profit and loss and identifiable assets attributable to each of our business segments, is set forth in Note 17 to the Consolidated Financial Statements for the year ended September 30, 2018. Additional information regarding the amounts of revenue and operating profit and loss attributable to major classes of products and services is set forth in “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” which follows in Item 7 of this Form 10-K.

TRANSPORTATION SYSTEMS SEGMENT

CTS is a systems integrator of payment and information technology and services for intelligent travel solutions. We deliver integrated systems for transportation and traffic management, delivering tools for travelers to choose the smartest and easiest way to travel and pay for their journeys, and enabling transportation authorities and agencies to manage demand across the entire transportation network — all in real time. We offer fare collection and revenue management devices, software, systems and multiagency, multimodal integration technologies, as well as a full suite

of operational services that help agencies and operators efficiently collect fares and revenue, manage operations, reduce revenue leakage and make transportation more convenient. Through our NextBus and Intelligent Transport Management Solutions (ITMS) businesses, respectively, we also deliver real-time passenger information systems for tracking and predicting vehicle bus arrival times, and we are a leading provider of urban and inter-urban intelligent transportation and enforcement solutions and technology and infrastructure maintenance services to U.K. and other international city, regional and national road and transportation agencies. Through our Urban Insights business, we use big data and predictive analytics technology and a consulting model to help the transportation industry improve operations, reduce costs and better serve travelers.

CTS is comprised of approximately 2,700 employees working in major transportation markets worldwide. As an established partner with transportation authorities and operators, we have installed systems in over 40 markets and currently serve over 41 million users a day, which in total process approximately 12 billion revenue-related transactions per year, generating more than \$16 billion of revenue per year for such transportation authorities and operators. Products accounted for 43% of the segment's fiscal year 2018 sales, with services accounting for 57%.

We believe that we hold the leading market position in large-scale automated fare payment and revenue management systems and services for major metropolitan areas. We have implemented and, in many cases, operate, automated fare

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payment and revenue management systems for some of the world's largest transportation systems, examples include London (Oyster/Contactless Payment), the New York region (Metrocard), the Chicago region (Ventra), the San Francisco Bay Area (Clipper), the Los Angeles region (TAP), the Washington D.C. region (Smartrip), the Vancouver region (Compass), the Sydney region (Opal Card) and the Brisbane region (Go Card). In fiscal 2018, we were awarded: a contract by the New York Metropolitan Transportation Authority (MTA) to replace the MetroCard system with a New Fare Payment System (NFPS); a contract by the Massachusetts Bay Transit Authority (MBTA) to provide the CharlieCard system with a next-generation fare payment system; a contract by the Queensland Department of Transportation & Main Roads to provide a new fare system for the state of Queensland, Australia; and a contract by the San Francisco Bay Area's Metropolitan Transportation Commission (MTC) to deliver next-generation fare payment technology and operational services to the Clipper smart card system serving the Bay Area.

In fiscal 2016 we were awarded a contract by the New Hampshire State Department of Transportation to deploy our back-office system for the purposes of toll revenue collection. We provide a modern tolling alternative that uses best-of-breed tools that are flexible and modular compared to the proprietary, legacy systems that the industry views as their only option.

Through our NextBus and ITMS businesses we provide advanced transportation operational management capabilities and related services to over 95 customers including organizations such as Transport for London, Transport Scotland, Highways England, Transport for Greater Manchester, Los Angeles Metro, San Francisco Muni and the Toronto Transit Commission. In August 2018, we were awarded an Intelligent Congestion Management Platform contract by Transport for New South Wales to provide Sydney, Australia with one of the world's most advanced transport management systems. The new system will enhance monitoring and management of the road network across New South Wales, coordinate the public transport network across all modes, improve management of clearways, planning of major events and improve incident clearance times, while providing real-time information and advice to the public about disruptions.

In addition to helping us secure similar projects in new markets, our comprehensive suite of innovative technologies and capabilities enables us to benefit from a recurring stream of revenues in established markets resulting from operations, new services, technology refresh, equipment refurbishment and the introduction of new or adjacent applications.

Consistent with our history of creating next-generation, state-of-the-art technologies and systems, our recent contract wins are a direct result of us implementing our NextCity initiative, which facilitates integrated payment and information technology and services across all modes of transportation. NextCity comprises a modular solution offering innovative payment and revenue management technologies, the creation and distribution of real-time and predictive information through the integration of payment and information systems, applications that enable agencies and operators to plan for and manage demand and applications that allow customers to manage their travel through seamless access to predictive and relevant information and convenient payment methods.

Industry Overview

We define our addressable transportation market as large-scale, multi-modal transportation revenue management systems (e.g. public transit fare collection, toll revenue collection), Real-Time Passenger Information and Intelligent Transportation Systems and services. We project the long-term growth for this market to be driven primarily by customer infrastructure expansion as well as technological refreshment and advancement which will lead to system replacements and upgrades. The average lifecycle of our revenue management systems is approximately 10 years, providing long-term recurring sales visibility and opportunities for future replacements and upgrades. Together with additional opportunities that stem from our other businesses as well as entry into new geographies, we believe our overall addressable market to be in excess of \$16 billion. We believe industry experience, past performance, technological innovation and price are the key factors customers consider in awarding programs and such factors can serve as barriers to entry to potential competitors when coupled with scale and the upfront investments required for these programs.

The transportation systems and services business breaks into niche market segments, each of which is only capable of sustaining a relatively few numbers of suppliers. Due to the long-life expectancy of these systems and the few companies with the capabilities to supply them, there is fierce competition to win new contracts.

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Advances in communications, networking and security technologies are enabling interoperability of multiple modes of transportation within a single networked system, as well as interoperability of multiple transportation operators within a single networked system. As such, there is a growing trend for regional payment systems, usually built around a large agency and including neighboring operators, all sharing a common regional payment media. Recent procurements for open payment systems will further extend the acceptance of payment media from smart cards, to contactless bank cards and Near Field Communication (NFC) enabled smart phones.

There is also an emerging trend for other applications to be added to these regional systems to expand the utility of the payment media and back-office system, offering higher value and incentives to the end users, and lowering costs and creating new revenue streams through the integration of multi-modal and multi-operator systems for the regional system operators. As a result, these regional systems have created opportunities for new levels of systems support and services including customer support call centers and web support services, smart card production and distribution, financial clearing and settlement, retail merchant network management, transit benefit support, and software application support. In some cases, operators are choosing to outsource the ongoing operations and commercialization of these regional payment systems. This growing new market provides the opportunity to establish lasting relationships and grow revenues and profits over the long term.

Our NextBus business uses a software-as-a-service solution. NextBus' technologies provide transit passengers with accurate, real-time predictive arrival information about buses, subways and trains, and include real-time management and dispatch tools that enable transit operators to effectively manage their systems.

ITMS has a portfolio of information-based solutions for transportation agency customers. ITMS is a provider of traffic management systems technology, traffic and road enforcement and the maintenance of traffic signals, emergency equipment and other critical road and tunnel infrastructure.

Raw Materials — CTS

Raw materials used by CTS include sheet steel, composite products, copper electrical wire and castings. A significant portion of our end product is composed of purchased electronic components and subcontracted parts and supplies we procure from third-party suppliers. In general, supplies of raw materials and purchased parts are adequate to meet our requirements.

Backlog — CTS

Funded sales backlog of CTS at September 30, 2018 and 2017 amounted to \$3.545 billion and \$2.044 billion, respectively. We expect that approximately \$675 million of the September 30, 2018 backlog will be converted into sales by September 30, 2019.

CTS Competitive Environment:

We are one of several companies specializing in the transportation systems and services market. Our competitors in various market segments include Accenture, Conduent, IBM, Indra, Init, Kapsch, Parkeon, Roper Technologies, Scheidt & Bachmann, Siemens, Thales, and Trapeze.

For large tenders, our competitors may form consortiums that could include telecommunications companies, financial institutions and consulting companies in addition to the companies noted above. These procurement activities are very competitive and require that we have highly skilled and experienced technical personnel to compete.

We believe that our competitive advantages include intermodal and interagency regional integration expertise, technical skills, innovation, past contract performance, systems quality and reliability, experience in the industry and long-term customer relationships.

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CUBIC GLOBAL DEFENSE SEGMENT

CGD is a market leader in live and virtual military training systems and has a growing presence in game-based training systems. Training systems provided by CGD include customized military range instrumentation systems, live-fire range design and maintenance, laser-based training systems, virtual simulation systems, and game-based synthetic training environments. CGD is comprised of approximately 1,900 employees working in 12 nations on 4 continents providing training systems to the DoD and 50 allied nations.

Our training systems business is a pioneer and market leader in the design, innovation, and manufacture of instrumented training systems and products for the U.S. military and the militaries of allied nations. We design and manufacture realistic, high-fidelity air, ground, and surface systems. They are implemented in both live and synthetic training environments, and are used to effectively deliver a range of training objectives, such as training for fighter pilots, ground troops, infantry, armored vehicles, ship operation and maintenance personnel, cyber warriors, and special operations forces. These systems deliver stressful scenarios and weapons' effects, collect event and tactical performance data, record simulated engagements and tactical actions, and deliver after actions reviews to evaluate individual and collective training effectiveness.

Strategically, we believe CGD is very well positioned to lead the increasing trend to fully integrated solutions that connect live, virtual, constructive, and game-based training environments into a seamless training event. Our training business portfolio is currently organized into air combat, ground combat, virtual training, and game-based advanced learning systems.

Air Combat Training Systems

In air combat, Cubic was the initial developer and supplier of Air Combat Maneuvering Instrumentation (ACMI) capability during the Vietnam War, which provides advanced live training to U.S. military fighter pilots and to allies around the world. The ACMI product line has progressed through five generations of technologies and capabilities. The latest generation, the P5 Combat Training System, provides advanced air combat training capability to the U.S. Air Force, Navy and Marine Corps, and has solidified Cubic's market leading position. We have been awarded a series of contracts to produce and enhance ACMI for the F-35 Joint Strike Fighter. In May 2016, Cubic and its industry partners were selected by the U.S. Air Force Research Laboratory for Warfighter Readiness and Training Research to develop technologies for next-generation readiness capabilities. We have also developed a broad international base for our ACMI product, particularly in Asia Pacific and the Middle East. In addition to procuring the ACMI training system, many nations also rely on Cubic for on-site operations and maintenance support. We are constantly evolving our air combat training solutions to achieve full-spectrum live, virtual, and constructive (LVC) training systems. Cubic is the industry system integrator for the Air Force Research Lab's Secure LVC Advanced Training Environment (SLATE) and Advanced Technology Demonstration (ATD). SLATE ATD integrates fourth and fifth-generation aircraft training with a multi-level encrypted ACMI waveform and airborne subsystems, in both tethered and untethered LVC training scenarios. SLATE ATD is a combination of protocols, standards, hardware and software that

are joint, interoperable and supports advanced warfighting concepts.

Ground Combat Training Systems

CGD is a leading provider of realistic, easy-to-use, high-fidelity, reliable, and cost-effective tactical engagement simulation systems that minimize user set-up time and increase training effectiveness. Our leadership role in instrumented training was established during the 1990s when Cubic provided turnkey systems for U.S. Army training centers including the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, and the Combat Maneuver Training Center (CMTTC) at Hohenfels, Germany, now known as the Joint Multinational Readiness Center. Since the completion of these original contracts, we have significantly expanded our market footprint with the sale of fixed, mobile and urban operation training centers to uniformed military and security forces in the United States and allied nations around the world. Our ground combat training systems operate at over 40 combat training centers (CTCs) worldwide. Our laser-based tactical engagement simulation systems, widely known as Multiple Integrated Laser Engagement Systems (MILES), are used to enable realistic training without live ammunition. Cubic MILES are being utilized at over 90 locations around the world by multiple branches of the U.S. Armed Services, as well as the Department of Energy,

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and numerous international government customers. We have increased our focus on joint training solutions and those that can operate simultaneously in multiple simulation environments including live, virtual, constructive and gaming domains. In fiscal year 2013 we acquired the assets of Advanced Interactive Systems (AIS), which provides live fire training solutions to U.S. and international forces, further deepening our training capabilities and expanding our customer base. In July 2017, we acquired Deltenna, a wireless infrastructure company specializing in the design and delivery of radio and antenna communication solutions. Deltenna designs and manufactures cutting-edge integrated wireless products including compact LTE base stations, broadband range extenders for areas of poor coverage and rugged antennas. Deltenna enhances our tactical communication and training capabilities by effectively delivering high-capacity data networks within challenging and rigorous environments.

Game-Based Learning Systems

The Littoral Combat Ship (LCS) courseware contract win by the Simulation Systems Division during 2013 has opened a large new market for CGD. A key discriminator in the LCS proposal was the use of a high-fidelity gaming engine that allows avatars to instruct students at their own pace in an immersive environment based on realistic graphics. By integrating instructional material into a gaming environment, we have dramatically reduced instructor costs and provided a platform that is ideal for embedded training. These technologies are easily transferrable to different training domains and subject matter. The experiential learning environment can be augmented with intelligent tutoring and assessment tools increasing the value of this approach. We continue to invest in the appropriate tool sets and staffing resources to meet the Navy requirements. Near-term opportunities include other Navy and DoD customers.

Raw Materials — CGD

The principal raw materials used by CGD are sheet aluminum and steel, copper electrical wire and composite products. A significant portion of our end products are composed of purchased electronic components and subcontracted parts and supplies. We procure these items primarily from third-party suppliers. In general, supplies of raw materials and purchased parts are adequate to meet our requirements.

Backlog — CGD

Funded and total backlog of CGD at September 30, 2018 was \$443 million compared to \$420 million at September 30, 2017. We expect that approximately \$200 million of the September 30, 2018 backlog will be converted into sales by September 30, 2019.

CUBIC MISSION SOLUTIONS SEGMENT

CMS is a provider of business includes secure communications, secure networking, and Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) product lines. From 2015 through 2018, we acquired GATR, DTECH, TeraLogics, Vocality, MotionDSP, and Shield Aviation in connection with our strategic efforts to build and expand our C4ISR business. These businesses provide wideband ultra-portable expeditionary satellite communication solutions, real time processing and enhancement, exploitation and dissemination of full motion video in the cloud, computer vision analytics, deployable secure tactical cloud computing communication gateways and ISR services. CMS is comprised of approximately 500 employees working primarily in the United States.

Secure Communications

Our broad portfolio of Secure Communications products includes next-generation satellite communication solutions, Wideband RF data links, search and rescue avionics and customized radio products.

CMS satellite communication terminal solutions are extremely portable, easily deployable, reliable in extreme environments, and have a low cost of use and ownership. Customers for CMS satellite solutions include U.S. and foreign military and emergency relief personnel (including federal, state, local, and international disaster response agencies, NGO's, and private relief companies). Our customers use our solutions for first-in communications (in the one hour to

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several month's timeframe), as well as contingency communications and other short-to-medium term deployments where both high bandwidth and portability are needed. The decreased size, weight, and power requirements (SWaP) of CMS' satellite solutions provide significantly higher performance when compared with similar transit volume and weight antennas. In fiscal 2018, the GATR satellite antenna systems proceeded to Full Rate Production (FRP) for the U.S. Army's Transportable Tactical Command Communications (T2C2) program.

Our data links portfolio originated with the U.S. Army/Air Force Joint STARS system during the 1980s, and we continue to supply ISR data links to U.S. and international forces today. More recently we have focused on the supply of Common Data Link (CDL) products for ship borne applications, unmanned aerial vehicles (UAV), remote video terminals and hand-held products. Smaller, tactical versions of our Common Data Link have been selected for both UAV and remote video terminal applications such as the U.K.'s Watchkeeper, the U.S. Navy's Fire Scout MQ-8 UAV and common data link programs and the U.S. Marine Corp's (USMC) Small Unmanned Aerial System and Networking-on-the-move system programs.

Our search and rescue avionics Personnel Locator System (PLS) is standard equipment on U.S. aircraft with a search and rescue mission. PLS is designed to interface with all modern search and rescue system standards. These include systems used by the Canadian Coast Guard, the U.S. Navy, the U.S. Air Force and the French Army. We also supply high power amplifiers and direction finding systems to major prime contractors and end users for both domestic and international applications.

Secure Networking

Our range of secure networking solutions provide a wide range of deployable and tactical computing and networking solutions to meet the diverse mission requirements of our military, government, first-responder and civilian customers.

CMS' secure networking products operate in extreme environments and provide tactical cloud, networking, and communication interoperability gateways to help ensure critical communications. We provide embedded technology which unifies communications platforms, enhances voice quality, increases video performance and optimizes data throughput for C4ISR solutions. Our customers include U.S. and foreign militaries, Homeland Security & First Responder organizations, and industrial customers in the oil and gas, and maritime markets. We also provide cross-domain hardware solutions to address multi-level security challenges across common networks. In 2018, our Vocality Radio over Internet Protocol (RoIP) solution was certified and selected by AT&T as the FirstNet interoperability gateway. FirstNet is a national network used to enable critical communications for first responders.

C2ISR

We are a leading provider of real-time full motion video processing, exploitation and dissemination for the DoD, the intelligence community and commercial customers. With cloud-based, motion video streaming solutions for weather forecasting, security surveillance, asset awareness and recovery, critical intelligence analysis and mission command, our video applications are used by more than 30,000 users—capturing nearly 5 million hours of full-motion video each year. Additionally, we develop and apply artificial intelligence technologies to enhance videos in real-time to increase situational understanding.

Raw Materials — CMS

The principal raw materials used by CMS are sheet aluminum and steel, fabrics, purchased electronic subcomponents, cabling to include electrical wiring, connectors and harnesses, injection molded plastics, and composite products. We procure these items primarily from third-party suppliers. In general, supplies of raw materials and purchased parts are adequate to meet our requirements.

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Backlog — CMS

Funded and total backlog of CMS at September 30, 2018 was \$77 million compared to \$72 million at September 30, 2017. We expect that approximately \$74 million of the September 30, 2018 backlog will be converted into sales by September 30, 2019.

CGD and CMS Competitive Environments

Cubic's broad portfolios in both our CGD and CMS segments means we compete with numerous companies, large and small, across the globe. Well known competitors to these two segments include Boeing, General Dynamics, L3 Communications, Lockheed Martin, Northrop Grumman and Saab Training Systems, as well as other smaller companies. In many cases, we have also teamed with several of these companies, in both prime and subcontractor roles, on specific bid opportunities. While we are generally smaller than our principal competitors, we believe our competitive advantages include an outstanding record of past performance, strong incumbent relationships, the ability to control operating costs and rapidly focus technology and innovation to solve customer problems.

In CGD's market, we continue to focus on expanding our domestic and international footprint in the global military simulation and training market as well as enabling the convergence and integration of live, virtual and constructive training technologies.

CGD's market is relatively large and stable. According to the 2018 Global Military Simulation and Virtual Training Market report, the value of the global military simulation and virtual training programs market is \$10.2 billion in 2018. The value of the market is expected to increase at a compound annual growth rate of 3.12% over the forecast period, to reach a value of \$13.8 billion by 2028.

We estimate that the Secure Communications, Secure Networking and C2ISR markets within our CMS business have a total addressable market of approximately \$3 billion annually. We believe that our products and technologies address mission critical requirements such as integrated communications suites for unmanned aerial vehicles (UAV), ships and the dismounted soldier, battlefield awareness, and secure and encrypted communications. We believe that these technologies will continue to experience strong demand as the U.S. military maintains a smaller, more agile force structure.

We believe that much of our business is well positioned in areas that the DoD has indicated are areas of focus for future defense spending to help the DoD meet its critical future capability requirements for enabling and protecting U.S. security and the security of our allies in the years to come.

BUSINESS STRATEGY

Goal 2020 reflects our vision of Cubic's continued growth path to help generate superior returns for our shareholders. Our goal is to reach \$1.5B+ in revenue with 11% to 12.5% Adjusted EBITDA margins by the end of 2020. We believe our growth will be fueled by enhancing customer value through innovative solutions in our markets and maintaining our leadership position in these markets, accelerated with accretive strategic acquisitions, and led by our talented and dedicated employees.

To achieve Goal 2020 we are focused on our winning proposition and five key priorities. We will enhance value creation by providing our global customers with market-leading, technology driven, mission-critical solutions that reduce transportation congestion and increase military readiness and effectiveness. To achieve Goal 2020, we are focused on the five key priorities of Winning the Customer, Building NextCity Globally, Building Next-Mission Globally, Building NextTraining Globally and Living One Cubic.

Our strategy remains guided by our objective of Winning the Customer to create market-leading positions, delivering superior operational performance, developing customer-centric innovations and investing our capital and talent to enhance our market-leading businesses. We will accelerate our growth by being innovative, responsive, connected and,

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ultimately, indispensable to our customers. We will be good listeners, understand our customers' perspective and find solutions together.

In transportation, we have developed our NextCity vision for the future of transportation. We are repositioning ourselves from being a leading provider of mass transit fare collection systems to be a leading provider of integrated payment and information systems across all modes of transportation. In Building NextCity Globally, we will create transportation payment and information solutions in cities globally to help our customers increase efficiency and reduce congestion. We will focus on integrating transportation payments more efficiently and leveraging transportation data more effectively than anyone else. We will endeavor to put distance between us and the competition by: increasing our product reusability, innovating faster, using our superior global footprint to our advantage, and having a competitive cost structure. We will continue to grow our portfolio beyond fare collection to include industries such as tolling, analytics, parking and traffic management and design our solutions to scale to all cities, large and small. In fiscal year 2019, we are expanding our solutions to smaller and mid-sized agencies through our investment in NextBus 2.0, our investment in Delerrok, and the development of a detailed plan and strategy to shift our business models.

In defense C4ISR, over the past three years we acquired DTECH, GATR, TeraLogics, Deltenna, Motion DSP and Shield Aviation in connection with our strategic efforts to build and expand our NextMission Strategy. We formalized the structure of our Cubic Mission Solutions business unit which combines and integrates our C4ISR and secure communications operations. In building C4ISR globally, we will become a leader in Communications-on-the-Move, Joint Aerial Layer Network and C2ISR cloud transformation markets. We will provide superb technology-leading mission solutions at optimal SWaP (size, weight, and power) for our global customers' most challenging problems at market-based prices.

In defense training, we have developed our vision for NextTraining. At its core, NextTraining will identify and quickly integrate highly valued, cutting-edge technical solutions in products and services to accelerate training proficiency for our customers. We will assist our customers in defining future training requirements while leveraging market conditions to generate competitive differentiation and cost synergies. In Building NextTraining Globally, we will provide superior value, cost effective all-domain readiness solutions built on an integrated, adaptable architecture to enable performance-based customer training solutions designed to exacting operational readiness standards.

Lastly, Goal 2020 is supported by our Living One Cubic key priority of sharing resources across the company to help achieve superior talent management, absolute customer focus, innovation, collaboration, cost-effective enterprise systems and impeccable ethics.

As part of our strategic planning process, we routinely conduct portfolio reviews and are reshaping our portfolio to help allow us to consistently grow sales, improve profitability and deliver attractive returns on capital. Our acquisition approach remains focused on opportunities that align with our strategy to build technology driven market leading businesses in NextCity, NextMission and NextTraining. We plan to continue to evaluate larger transformational

opportunities that would leverage our strategy to invest in higher margin niche markets and utilize our strong capital position.

We believe implementing our strategy will improve Cubic's competitive advantage and deliver superior value to our customers as well as superior returns to our shareholders.

Maintain Niche Market Leadership

We seek to defend our leadership positions in core markets by ensuring all our businesses are customer focused, thereby maintaining our long-term relationships with our customers. By achieving this goal, we can leverage our returns through follow-on business with existing customers and expand our presence in the market through sales of similar systems at competitive prices to new customers. The length of relationship with many of our customers exceeds 30 years and further supports our industry-wide leadership and technological capabilities. In addition, as a result of maintaining a high

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level of performance, we continue to provide a combination of support services and upgrades for our long-term customers. Such long-term relationships include the following:

Business Area	Year
Automated Fare Collection	1972, provided the San Francisco Bay Area Rapid Transit (BART) ticket encoding and vending technology.
Air Combat Training	1973, supplied first “Top Gun” Air Combat Maneuvering Instrumentation system for the Marine Corps Air Station at Yuma, AZ.
Ground Combat Training	1990, pioneered the world’s first turnkey ground combat-instrumentation system at Hohenfels, Germany for the U.S. Army.
Expeditionary Satellite Communication Terminals	2008, GATRs’s technology was made an evolutionary component of the U.S. Special Operations Command Deployable Node family of SATCOM terminals.

Superior Operational Performance

Our businesses will continue to focus on achieving high levels of performance on current contracts, delivering world-class solutions on schedule and on budget. Achieving this level of performance will deliver high value to our customers, employees, and shareholders. Superior program execution will help us defend our positions in core markets and expand to new customers by leveraging solid past performance.

Strategic Reinvestment of Capital

We target markets that have the potential for above-average growth where domain expertise, innovation, technical competency and contracting dynamics can help to create meaningful barriers to entry. We will strategically reinvest our cash in key program captures, internal research and development (R&D), and acquisitions to target priority markets and help ensure market leading positions to drive long term shareholder return.

Innovation

We continue to invest in R&D to maintain a leadership role in the technological evolution within our core focus areas of the global transportation and defense markets. We are committed to using innovation and technology to address our customers’ most pressing problems and demanding requirements. We have made meaningful and recognized contributions to technological advancements within our industries.

The cost of company-sponsored R&D activities was \$52.4 million, \$52.7 million, and \$32.0 million in 2018, 2017 and 2016, respectively. Additionally, we have received significant R&D co-development investments from our customers. Consolidated and CTS R&D decreased between 2017 and 2018 primarily because CTS incurred R&D expense of \$6.4 million in 2017 related to our contract with the New York Metropolitan Transit Authority that was awarded in early fiscal 2018; such expenditures in fiscal 2018 are classified as costs of sales related to that contract. In 2018, CTS continued to make significant R&D investments in new transportation product development, including fare collection technologies, real-time passenger information and development of tolling, intelligent transport systems, and analytic technologies. CGD R&D expenditures increased in 2018 due to the acceleration of our development of next generation live, virtual, constructive training systems. CMS had increased R&D expenditures between 2017 and 2018, primarily driven by development of new antenna technology for communications.

In addition to internally funded R&D, a significant portion of our new product development occurs in conjunction with the performance of work on our contracts. These costs are included in cost of sales as they are directly related to contract performance. In fiscal year 2018, we spent 4% of our sales on internally funded R&D.

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Pursue Strategic Acquisitions

We have developed an acquisition strategy that focuses on growth opportunities in the defense and transportation markets in line with our overall business strategy. We have made strategic acquisitions that help us overcome existing barriers in target markets with the goal of accelerating our profitable growth. We are focused on finding attractive acquisitions that enhance our market positions, provide expansion into complementary growth markets and ensure sustainable long-term profitability and return on invested capital. Over the last several years, we have completed multiple acquisitions that have diversified our customer base and expanded our systems and services offerings.

For example, from fiscal 2015 through fiscal 2018 we acquired GATR, DTECH, TeraLogics, Vocality, MotionDSP, and Shield Aviation in connection with our strategic efforts to build and expand our C4ISR business.

Enhance Services Business

We view services tied to our technologies as a core element of our business and we are working to expand our service offerings and customer base. In aggregate, approximately 41% of our sales in fiscal year 2018, were from service-related work. We believe that a strong base of service work helps to consistently generate profits and smooth the sales fluctuations inherent in systems work.

At CTS, we deliver a number of customer services from key service facilities for multiple transportation authorities worldwide. Due to the technical complexities of operating payment systems, transportation agencies are turning to their system suppliers for IT services and other operational and maintenance services, such as regional settlement, card management and customer support services that would otherwise be performed by the agencies. As a result, we have transitioned from a supplier to a systems integration and services company providing a suite of turnkey outsourced services for more than 20 transit authorities and cities worldwide. Today, CTS delivers a wide range of services from customer support to financial management and technical support at operation centers across the United States, Canada, United Kingdom and Australia.

For CGD, increased services and operations and maintenance opportunities can reduce the volatility and timing uncertainties associated with large equipment contracts and add depth to the revenue base. Compared to the U.S. market where small business requirements, omnibus contracts and local preferences create acquisition challenges, we believe the international market offers greater opportunities to bundle and negotiate multi-year, turnkey contracts. We believe these long-term contracts reinforce CGD competitive posture and enable us to provide enhanced services through regular customer contact and increased visibility of product performance and reliability.

Expand International Footprint

We have developed a large global presence in our business segments. CTS has delivered over 500 projects in 40 major markets on 4 continents to date. Approximately 59% of the CTS segment's fiscal year 2018 sales were attributable to international customers. In fiscal 2018, CTS was selected by the Queensland Department of Transport & Main Roads (DTMR) in Australia to design, build and operate a new ticketing system for the state and signed a contract with Transport for New South Wales in Australia to build an Intelligent Congestion Management Platform. In 2017, CTS signed a contract with Transport for London (TfL) for a three-year extension of services to London's Oyster and contactless ticketing system to extend the contract for these services from 2022 to 2025.

CGD has delivered systems in more than 50 allied nations. In fiscal year 2018, approximately 52% of CGD sales were to allied foreign governments, including projects funded by the U.S. government pursuant to Foreign Military Sales and Foreign Military Financing arrangements. We have expanded our presence in the United Kingdom, Canada, Taiwan, and the United Arab Emirates in response to growing opportunities. These complement a well-established and sound presence in Singapore, Australia, New Zealand, and Italy.

Our CMS products are designed to address the needs of numerous international defense and civil applications. Our ISR data links are used by a number of international allied forces. In early fiscal 2018, CMS was awarded an order to provide satellite communication solutions for the New Zealand Defence Force (NZDF) under which we are supplying inflatable

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satellite antennas with supporting hardware and equipment training for the NZDF Network Enabled Army program. In addition, in late fiscal 2018 Australia's Ministry of Defense procured CMS Atlas Strike kits that provide communications capability and situational awareness for Australia's Joint Tactical Air Controllers.

INTELLECTUAL PROPERTY

We seek to protect our proprietary technology and inventions through patents and other proprietary-right protection, and also rely on trademark laws to protect our brand. However, we do not regard ourselves as materially dependent on patents for the maintenance of our competitive position. We also rely on trade secrets, proprietary know-how and continuing technological innovation to remain competitive.

REGULATION

Our businesses must comply with and are affected by various government regulations that impact our operating costs, profit margins and our internal organization and operation of our businesses. We deal with numerous U.S. government agencies and entities, including all branches of the U.S. military and the DoD. Therefore, we must comply with and are affected by laws and regulations relating to the formation, administration, and performance of U.S. government and other contracts. These laws and regulations, among other things, include the Federal Acquisition Regulations and all department and agency supplements, which comprehensively regulate the formation, administration and performance of U.S. government contracts. These and other federal regulations require certification and disclosure of cost or pricing data in connection with contract negotiations for certain types of contracts, define allowable and unallowable costs, govern reimbursement rights under cost-based contracts, and restrict the use, dissemination and exportation of products and information classified for national security purposes. For additional discussion of government contracting laws and regulations and related matters, see "Risk factors" and "Business—Industry Considerations" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies, Estimates and Judgments—Revenue Recognition" with respect to pricing and revenue under government contracts.

Our business is subject to a range of foreign, federal, state and local laws and regulations regarding environmental protection and employee health and safety, including those that govern the emission and discharge of hazardous or toxic materials into the environment and the generation, storage, treatment, handling, use, transportation and disposal of such materials. From time to time, we have been named as a potentially responsible party at third-party waste disposal sites. We do not currently expect compliance with such laws and regulations to have a material effect upon our capital expenditures, earnings or competitive position. However, such laws and regulations are complex, change frequently and have tended to become increasingly stringent over time. Accordingly, we cannot assure you that such laws and regulations will not have a material effect on our business in the future.

OTHER MATTERS

We do not generally engage in any business that is seasonal in nature. Since our revenues are generated primarily from work on contracts performed by our employees and subcontractors, first quarter revenues tend to be lower than the other three quarters due to our policy of providing many of our employees more holidays in the first quarter, compared to other quarters of the year. The U.S. government's fiscal year ends on September 30 of each year. It is not uncommon for U.S. government agencies to award extra tasks or complete other contract actions in the weeks before the end of a fiscal year in order to avoid the loss of unexpended funds. These are not necessarily consistent patterns and depend upon actual activities in any given year. Since the Budget Act does not provide adequate enforcement mechanisms, statutory deadlines are often missed. As a result, Congress frequently relies on continuing resolutions or omnibuses, causing uncertainty about government spending or raising the threat of a shutdown. The U.S. Congress recently made progress in funding the government for fiscal year 2019. Not unlike past fiscal years, there have still been delays in the process for considering fiscal year 2019 appropriations bills. Nevertheless, we are encouraged by the U.S. Congress' return to near regular order and the passing of the defense appropriations bills and approximately 75% of discretionary funding for fiscal year 2019, with the remainder of appropriations placed under a short-term continuing resolution to avoid a full or partial government shutdown.

We employed approximately 5,600 persons at September 30, 2018.

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Our domestic products and services are sold almost entirely by our employees. Overseas sales are made either directly or through representatives or agents.

Item 1A. RISK FACTORS.

Risks relating to our business

Unforeseen problems with the implementation and maintenance of our information systems could have an adverse effect on our operations and if internal controls are not designed and operated effectively our internal control over financial reporting could be ineffective.

As a part of our efforts to upgrade our current information systems, early in fiscal 2015 we began the process of designing and implementing new enterprise resource planning (ERP) software and other software applications to manage our operations. The software applications have been implemented in phases through 2018. As we implement and add functionality, problems could arise that we have not foreseen, including interruptions in service, loss of data, or reduced functionality. Such problems could adversely impact our ability to provide quotes, take customer orders, ship orders timely, pay employees properly, and otherwise run our business in a timely manner. In addition, if our new systems fail to provide accurate and increased visibility into pricing and cost structures, it may be difficult to improve or maximize our profit margins. As such, our results of operations and cash flows could be adversely affected. Such matters could lead to the loss of customers, damage to our reputation, litigation, and declines in our stock price.

In addition, the new ERP software and other applications that we have implemented and continue to implement are new to our organization. We have limited experience with maintaining controls over these new systems. If we are unable to design controls within or around these systems that are effective at preventing and detecting unreliable data, or if we are unable to design or operate controls within or around these systems to provide effective control around program changes and access to the systems, we may be at risk for future material weaknesses. The existence of a material weakness could result in errors in our financial statements that could result in a restatement of financial statements, which could cause us to fail to meet our reporting obligations, lead to a loss of investor confidence and have a negative impact on the trading price of our common stock.

We depend on government contracts for substantially all of our revenues and the loss of government contracts or a delay or decline in funding of existing or future government contracts could decrease our backlog or adversely affect our sales and cash flows and our ability to fund our growth.

Our revenues from contracts, directly or indirectly, with foreign and U.S. state, regional and local governmental agencies represented substantially all of our total revenues in fiscal year 2018. Although these various government agencies are subject to common budgetary pressures and other factors, many of our various government customers exercise independent purchasing decisions. As a result of the concentration of business with governmental agencies, we are vulnerable to adverse changes in our revenues, income and cash flows if a significant number of our government contracts, subcontracts or prospects are delayed or canceled for budgetary or other reasons.

The factors that could cause us to lose these contracts and could decrease our backlog or otherwise materially harm our business, prospects, financial condition or results of operations include:

- budget constraints affecting government spending generally, or specific departments or agencies such as U.S. or foreign defense and transportation agencies and regional transportation agencies, and changes in fiscal policies or a reduction of available funding;
- re-allocation of government resources as the result of actual or threatened terrorism or hostile activities or for other reasons;

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- Congress and the executive branch may reach an impasse on increasing the national debt limit which would restrict the U.S. government's ability to pay contractors for prior work;
- disruptions in our customers' ability to access funding from capital markets;
- curtailment of governments' use of outsourced service providers and governments' in-sourcing of certain services;
- the adoption of new laws or regulations pertaining to government procurement;
- government appropriations delays or blanket reductions in departmental budgets;
- if Congress does not agree on a budget or continuing resolution, it may result in a partial shutdown of the U.S. government or sequestration and cause the termination or suspension of our contracts with the U.S. government or automatic cuts to the U.S. defense budget, which could require us to furlough affected employees for an indefinite time, terminate or suspend subcontracts, or incur contract wind-down costs; It is uncertain if we would be compensated or reimbursed for any loss of revenue during such periods. If we were not compensated or reimbursed, it could result in significant adverse effects on our revenues, operating costs and cash flows.
- suspension or prohibition from contracting with the government or any significant agency with which we conduct business;
- increased use of shorter duration awards by the federal government in the defense industry, which increases the frequency we may need to compete for work;
- impairment of our reputation or relationships with any significant government agency with which we conduct business;
- increased use of small business set asides by government agencies, resulting in limitations on Cubic's ability to bid on contracts or to perform work as a subcontractor;
- increased use of lowest-priced, technically acceptable contract award criteria by government agencies;
- increased aggressiveness by the government in seeking rights in technical data, computer software, and computer software documentation that we deliver under a contract, which may result in "leveling the playing field" for competitors on follow-on procurements;
- impairment of our ability to provide third-party guarantees and letters of credit; and

- delays in the payment of our invoices by government payment offices.

In addition, some of our international work is done at the request and at the expense of the U.S. government and its agencies. Therefore, risks associated with performing work for the U.S. government and its agencies may also apply to our international contracts.

Government spending priorities and terms may change in a manner adverse to our businesses.

At times, our businesses have been adversely affected by significant changes in U.S. and foreign government spending during periods of declining budgets. A significant decline in overall spending, or the decision not to exercise options to renew contracts, or the loss of or substantial decline in spending on a large program in which we participate could materially adversely affect our business, prospects, financial condition or results of operations. For example, the U.S. defense and national security budgets in general, and spending in specific agencies with which we work, such as those that are a part of the DoD, have declined from time to time for extended periods, resulting in program delays, program cancellations and a slowing of new program starts. Future levels of expenditures and authorizations for defense-related

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programs by the U.S. and foreign governments may decrease, remain constant or shift to programs in areas where we do not currently provide products or services, thereby reducing the chances that we will be awarded new contracts.

Even though our contract periods of performance for a program may exceed one year, Congress and certain foreign governments must usually approve funds for a given program each fiscal year and may significantly reduce funding of a program in a particular year. Significant reductions in these appropriations or the amount of new defense contracts awarded may affect our ability to complete contracts, obtain new work and grow our business. Congress and such foreign governments do not always enact spending bills by the beginning of the new fiscal year. Such delays leave the affected agencies under-funded which delays their ability to contract. Future delays and uncertainties in funding could impose additional business risks on us.

In addition, the DoD has an increased emphasis on awarding contracts to small businesses and awarding shorter duration contracts, each of which has the potential to reduce the amount of revenue we could otherwise earn from such contracts. Shorter duration contracts lower our backlog numbers and increase the risk associated with re-competing for a contract, as we would need to do so more often. In addition, as we may need to expend capital resources at higher levels upon the award of a new contract, the shorter the duration of the contract, the less time we have to recoup such expenditures and turn a profit under such contract.

In the past, we have restated our consolidated financial statements, which may lead to additional risks and uncertainties, including shareholder litigation, loss of investor confidence and negative impacts on our stock price.

In May 2014, we restated our consolidated financial statements as of and for the years ended September 30, 2013 and 2012 and for the quarterly periods within the fiscal years ended September 30, 2013 and 2012 due to errors related to our method of recognizing revenues on two contracts at one of our wholly-owned subsidiaries. We previously restated our historical financial statements in 2012 following the identification of errors, which related primarily to the misapplication of GAAP for certain methods of revenue recognition. Subsequent to the restatement of our consolidated financial statements we have implemented a number of new control procedures, developed of new analytical tools, and have implemented new ERP software and other financial system applications that we believe has improved our internal control over financial reporting. However, the fact that we have completed two restatements since 2012 may lead to a loss of investor confidence and have negative impacts on the trading price of our common stock, particularly if we are required to complete additional restatements in the future.

Our business and stock price may be adversely affected if our internal control over financial reporting is not effective.

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended. Management's assessment of our internal control over financial reporting as of September 30, 2013, identified material weaknesses in our internal

control over financial reporting related to accounting for revenue of one of our significant wholly owned subsidiaries. A material weakness is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. In fiscal 2014, we developed and implemented new control procedures over financial reporting related to accounting for revenue for this significant wholly owned subsidiary, and we concluded that we had remediated this material weakness as of September 30, 2014. However, we cannot assure you that our internal control over financial reporting will prevent additional material weaknesses or other deficiencies in the future. We may be at risk for future material weaknesses, particularly if these new procedures do not operate effectively. The existence of a material weakness could result in errors in our financial statements that could result in a restatement of financial statements, which could cause us to fail to meet our reporting obligations, lead to a loss of investor confidence and have a negative impact on the trading price of our common stock.

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Our contracts with government agencies may be terminated or modified prior to completion, which could adversely affect our business.

Government contracts typically contain provisions and are subject to laws and regulations that give the government agencies rights and remedies not typically found in commercial contracts, including providing the government agency with the ability to unilaterally:

- terminate our existing contracts;
- reduce the value of our existing contracts;
- modify some of the terms and conditions in our existing contracts;
- suspend or permanently prohibit us from doing business with the government or with any specific government agency;
- control and potentially prohibit the export of our products;
- cancel or delay existing multi-year contracts and related orders if the necessary funds for contract performance for any subsequent year are not appropriated;
- decline to exercise an option to extend an existing multi-year contract; and
- claim rights in technologies and systems invented, developed or produced by us.

Most U.S. government agencies and some other agencies with which we contract can terminate their contracts with us for convenience, and in that event we generally may recover only our incurred or committed costs, settlement expenses and profit on the work completed prior to termination. If an agency terminates a contract with us for default, we may be denied any recovery and may be liable for excess costs incurred by the agency in procuring undelivered items from an alternative source. We may receive show-cause or cure notices under contracts that, if not addressed to the agency's satisfaction, could give the agency the right to terminate those contracts for default or to cease procuring our services under those contracts.

In the event that any of our contracts were to be terminated or adversely modified, there may be significant adverse effects on our revenues, operating costs and income that would not be recoverable.

We have made assumptions concerning behavior by transportation authorities which may not hold true over time.

In our transportation business we have made certain assumptions that support the growth of the business. For example, we have assumed that governments will continue to charge passengers for using public transit. We have also assumed that transportation agencies will continue to outsource operations and services. Should these assumptions not hold true, our transportation business could experience a material loss of business.

The use of ride sharing, microtransit, and other shared mobility services and the development of autonomous vehicles could erode the demand for traditional public transit.

Ride sharing, microtransit, and other shared mobility services are creating options for public transit patrons which may be leading to the decline of ridership in some markets. The development and acceptance of autonomous vehicles could also lead to a decline in ridership for public transit systems. If these trends continue or expand, public transit agencies may decide to defer or reduce plans to upgrade their fare collection systems and our prospects for growth in our transportation business could diminish.

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Failure to retain existing contracts or win new contracts under competitive bidding processes may adversely affect our revenue.

We obtain most of our contracts through a competitive bidding process, and substantially all of the business that we expect to seek in the foreseeable future likely will be subject to a competitive bidding process. Competitive bidding presents a number of risks, including:

- the need to compete against companies or teams of companies with more financial and marketing resources and more experience in bidding on and performing major contracts than we have;
- the need to compete against companies or teams of companies that may be long-term, entrenched incumbents for a particular contract for which we are competing and that have, as a result, greater domain expertise and better customer relations;
- the need to compete to retain existing contracts that have in the past been awarded to us on a sole-source basis or as to which we have been incumbent for a long time;
- the U.S. government's increased emphasis on awarding contracts to small businesses could preclude us from bidding on certain work or reduce the scope of work we can bid as a prime contractor and limit the amount of revenue we could otherwise earn as a prime contractor for such contracts;
- the award of contracts on a "lowest-priced technically acceptable" basis which may lower the profit we may generate under a contract awarded using this evaluation method or prevent us from submitting a bid for such work due to us deeming such work to be unprofitable;
- the reduction of margins achievable under any contracts awarded to us;
- the expense and delay that may arise if our competitors protest or otherwise challenge new contract awards;
- the need to bid on some programs in advance of the completion of their design, which may result in higher R&D expenditures, unforeseen technological difficulties, or increased costs which lower our profitability;
- the substantial cost and managerial time and effort, including design, development and marketing activities, necessary to prepare bids and proposals for contracts that may not be awarded to us;
- the need to develop, introduce and implement new and enhanced solutions to our customers' needs;

- the need to locate and contract with teaming partners and subcontractors; and
- the need to accurately estimate the resources and cost structure that will be required to perform any fixed-price contract that we are awarded.

We may not be afforded the opportunity in the future to bid on contracts that are held by other companies and are scheduled to expire if the agency decides to extend the existing contract. If we are unable to win particular contracts that are awarded through the competitive bidding process, we may not be able to operate in the market for services that are provided under those contracts for a number of years. If we win a contract, and upon expiration the customer requires further services of the type provided by the contract, there is frequently a competitive rebidding process and there can be no assurance that we will win any particular bid, or that we will be able to replace business lost upon expiration or completion of a contract.

As a result of the complexity and scheduling of contracting with government agencies, we occasionally incur costs before receiving contractual funding by the government agency. In some circumstances, we may not be able to recover these costs in whole or in part under subsequent contractual actions.

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In addition, the customers currently serviced by our CTS segment are finite in number. The loss of any one of these customers, or the failure to win replacement awards upon expiration of contracts with such customers could adversely impact us.

If we are unable to consistently retain existing contracts or win new contract awards, our business, prospects, financial condition and results of operations will be adversely affected.

Many of our U.S. government customers spend their procurement budgets through multiple-award or ID/IQ contracts, under which we are required to compete among the awardees for post-award orders. Failure to win post-award orders could affect our ability to increase our sales.

The U.S. government can select multiple winners under multiple-award contracts, federal supply schedules and other agency-specific ID/IQ contracts, as well as award subsequent purchase orders among such multiple winners. This means that there is no guarantee that these ID/IQ, multiple-award contracts will result in the actual orders equal to the ceiling value under the contract, or result in any actual orders. We are only eligible to compete for work (purchase orders and delivery orders) as an awardee pursuant to government-wide acquisition contracts already awarded to us. Our failure to compete effectively in this procurement environment could reduce our sales, which would adversely affect our business, results of operations and financial condition.

The U.S. government's emphasis on awarding contracts to small businesses could preclude us from acting as a prime contractor and increase the number of contracts we receive as a subcontractor to small businesses, which could decrease the amount of our revenues from such contracts. Some of these small businesses may not be financially sound, which could adversely affect our business.

There is emphasis by the U.S. government on awarding contracts to small businesses, which may preclude companies the size of ours from obtaining certain work, other than as a subcontractor to these small businesses for a limited portion of the work. There are inherent risks in contracting with small companies that may not have the capability or financial resources to perform these contracts or administer them correctly. If a small business with which we have a subcontract fails to perform, fails to bill the government properly or fails financially, we may have difficulty receiving timely payments or may incur bad debt write-offs if the small business is unable or unwilling to pay us for work we perform. In addition, being a subcontractor may limit the amount of revenue we could otherwise earn as a prime contractor for such contracts. When we only act as a subcontractor, we may only receive a limited portion of the contract award. Failure to maintain good relationships with small business partners operating in our industries could preclude us from winning work as a subcontractor as part of a large contracting consortium. This could result in significant adverse effects on our revenues, operating costs and cash flows.

Government audits of our contracts could result in a material charge to our earnings, have a negative effect on our cash position following an audit adjustment or adversely affect our ability to conduct future business.

U.S. government agencies, including the DoD and others, routinely audit and review a contractor's performance on government contracts, contract costs, indirect rates and pricing practices, and compliance with applicable contracting and procurement laws, regulations and standards. Based on the results of such audits, the relevant government agency could adjust our contract costs, and any costs found to be unreasonable, improperly allocated, or unallowable under government cost accounting standards or contractual provisions will not be reimbursed. The government could also potentially refuse to agree to our proposed unit prices if the auditing agency does not find them to be "fair and reasonable." The government may also demand that we refund what the government claims are any excess proceeds we received on particular items where the government claims we did not properly disclose required information in negotiating the unit price.

The DoD, in particular, also reviews the adequacy of, and compliance with, our internal control systems and policies, including our purchasing, accounting, financial capability, pricing, labor pool, overhead rate and management information systems. Our failure to obtain an "adequate" determination of our various accounting and management internal control systems from the responsible U.S. government agency could significantly and adversely affect our business, including our ability to bid on new contracts and our competitive position in the bidding process. Failure to

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comply with applicable contracting and procurement laws, regulations and standards could also result in the U.S. government imposing penalties and sanctions against us, including suspension of payments and increased government scrutiny that could delay or adversely affect our ability to invoice and receive timely payment on contracts or perform contracts, or could result in suspension or debarment from competing for contracts with the U.S. government. In addition, we could suffer serious harm to our reputation if allegations of impropriety were made against us, whether or not true.

In addition, transit authorities have the right to audit our work under their respective contracts. If, as the result of an adverse audit finding, we were suspended, debarred, proposed for debarment, or otherwise prohibited from contracting with the U.S. government, any significant government agency or a transit authority terminated its contract with us, or our reputation or relationship with such agencies and authorities was impaired or they otherwise ceased doing business with us or significantly decreased the amount of business done with us, it would adversely affect our business, results of operations and financial condition.

Our international business exposes us to additional risks, including exchange rate fluctuations, foreign tax and legal regulations and political or economic instability that could harm our operating results.

Our international operations subject us to risks associated with operating in and selling products or services in foreign countries, including:

- devaluations and fluctuations in currency exchange rates;
- changes in foreign laws that adversely affect our ability to sell our products or services or our ability to repatriate profits to the United States;
- increases or impositions of withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures to us;
- increases in investment and other restrictions or requirements by foreign governments in order to operate in the territory or own the subsidiary;
- costs of compliance with local laws, including labor laws, privacy laws, and import/export regulations;
- compliance with applicable U.S. and foreign anti-corruption laws, anti-trust/competition laws, anti-Boycott Israel laws, anti-money laundering laws and sanctions;

- export control regulations and policies which govern our ability to supply foreign customers;
- unfamiliar and unknown business practices and customs;
- compliance with domestic and foreign government policies, including requirements to expend a portion of contract funds locally and governmental industrial cooperation or offset requirements;
- the complexity and necessity of using foreign representatives and consultants or being prohibited from such use;
- the difficulty of ensuring that our foreign representatives, consultants and partners comply with applicable U.S. and foreign anti-corruption laws and anti-trust/competition laws;
- the need to form joint ventures or other special purpose companies with local, in-country partners to pursue projects as a prime contractor;
- the uncertainty of the ability of foreign customers to finance purchases;

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- imposition of tariffs or embargoes, export controls and other trade restrictions;
- potentially being prohibited from bidding for international work due to perceived conflicts or national security concerns resulting from the significant amount of work we do for the U.S. government and its agencies;
- the difficulty of management and operation of an enterprise in various countries; and
- economic and geopolitical developments and conditions, including ongoing instability in global economies and financial markets, international hostilities, acts of terrorism and governmental reactions, inflation, trade relationships and military and political alliances.

Our foreign subsidiaries generally enter into contracts and make purchase commitments that are denominated in foreign currencies. Accordingly, we are exposed to fluctuations in exchange rates, which could have a significant impact on our results of operations. We have no control over the factors that generally affect this risk, such as economic, financial and political events and the supply of and demand for applicable currencies. While we use foreign exchange forward and option contracts to hedge significant contract sales and purchase commitments that are denominated in foreign currencies, our hedging strategy may not prevent us from incurring losses due to exchange fluctuations.

The results of the United Kingdom's referendum on withdrawal from the European Union (EU) may have a negative effect on global economic conditions, financial markets and our business.

In June 2016, a majority of voters in the United Kingdom elected to withdraw from the EU in a national referendum. In March 2017, the United Kingdom formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty. The referendum was advisory, and the terms of any withdrawal are subject to a negotiation period that could last until March 2019. The referendum has created significant uncertainty about the future relationship between the United Kingdom and the EU, and has given rise to calls for the governments of other EU member states to consider withdrawal.

These developments, or the perception that any of them could occur, may have a material adverse effect on global economic conditions and the stability of global financial markets, and could significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Asset valuations, currency exchange rates and credit ratings may be especially subject to increased market volatility. Lack of clarity about future United Kingdom laws and regulations as the United Kingdom determines which EU laws to replace or replicate in the event of a withdrawal, could depress economic activity, restrict our access to capital or adversely affect our contracts or relationships with customers in the United Kingdom or elsewhere in the European economic area. For example, our total sales to customers in the United Kingdom accounted for \$240.7 million, \$219.4 million and \$243.0 million of our consolidated sales in 2018, 2017 and 2016, respectively. If the United Kingdom and the EU are unable to negotiate acceptable withdrawal terms or if other EU member states pursue withdrawal, barrier-free access between the United Kingdom and other EU member states or among the European economic area overall could be diminished or eliminated. Any of these factors could have a material adverse effect on our business, financial condition and

results of operations.

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We are subject to new and evolving laws and regulations governing personal data privacy both in the United States and internationally. Some of these laws have not been fully interpreted by the relevant authorities. These uncertainties may expose us to legal claims, penalties, increased costs of business, and other harm to our business.

The changing legal landscape in the area of data privacy may affect the way we do business or impose increased costs. As an example, the EU's General Data Protection Regulation was implemented in May 2018 and has created a variety of new compliance obligations as well as increased financial penalties for noncompliance (which include fines up to 4% of global turnover of the preceding financial year or €20 million, whichever is greater, for serious violations). Noncompliance with such laws could result in fines, legal claims, loss of contracts and reputational harm.

We may not be able to receive the necessary licenses required for us to sell our export-controlled products and services overseas. In addition, the loss of our registration as either an exporter or a broker under the International Traffic in Arms Regulations (ITAR) or the Export Administration Regulations (EAR), would adversely affect our business, results of operations and financial condition.

U.S. government agencies, primarily the Directorate of Defense Trade Controls within the State Department and the Bureau of Industry Security within the U.S. Department of Commerce, must license shipments of certain export-controlled products that we export. These licenses are required due to both the products we export and to the foreign customers we service. If we do not receive a license for an export-controlled product, we cannot ship that product. We cannot be sure of our ability to gain any licenses required to export our products, and failure to receive a required license would eliminate our ability to make that sale. A delay in obtaining the necessary licenses to sell our export-controlled products abroad could result in delayed deliveries and delayed recognition of revenue, which could cause us reputational damage and could result in a customer's decision not to do business with us in the future. We may also be subject to inquiries by such U.S. government agencies relating to issues involving the export-controlled products and services we export and failure to satisfactorily resolve such inquiries would adversely affect our business, results of operations and financial condition.

In addition to obtaining a license for certain of our exports outside of the United States, we are also required to maintain a standing registry under the ITAR and the EAR as an exporter. We operate as an exporter when we ship certain products to our customers outside the United States. If we were to lose our registration as an exporter under the ITAR or the EAR, we would not be able to sell export-controlled products abroad, which would adversely affect our business, results of operations and financial condition.

The loss of required licenses from the Bureau of Alcohol, Tobacco, Firearms and Explosives could limit our ability to perform on contracts requiring the use of controlled firearms.

In our training business we use certain firearms which are regulated by the Bureau of Alcohol, Tobacco, Firearms and Explosives. If we fail to properly manage the firearms pursuant to the regulations, we could face fines and the possible loss of the licenses. The loss of the licenses could result in our inability to perform on certain contracts, which would have an adverse business, reputational and financial impact.

Our operating margins may decline under our fixed-price contracts if we fail to accurately estimate the time and resources necessary to satisfy our obligations.

Approximately 95% of our revenues in fiscal year 2018 were from fixed-price contracts under which we bear the risk of cost overruns. Our profits are adversely affected if our costs under these contracts exceed the assumptions we used in bidding for the contract. We may therefore need to absorb any increases in our supply costs and may not be able to pass such costs increases along to our customers. Sometimes we are required to fix the price for a contract before the project specifications are finalized, which increases the risk that we will incorrectly price these contracts. The complexity of many of our engagements makes accurately estimating the time and resources required more difficult.

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We may not receive the full amounts estimated under the contracts in our total backlog, which could reduce our sales in future periods below the levels anticipated and which makes backlog an uncertain indicator of future operating results.

As of September 30, 2018, our total backlog was approximately \$4.1 billion. Orders may be cancelled and scope adjustments may occur, and we may not realize the full amounts of sales that we may anticipate in our backlog numbers. There can be no assurance that the projects underlying the contracts and purchase orders will be placed or completed or that amounts included in our backlog ultimately will be billed and collected. Additionally, the timing of receipt of sales, if any, on contracts included in our backlog could change. The failure to realize amounts reflected in our backlog could materially adversely affect our business, financial condition and results of operations in future periods.

We may be liable for civil or criminal penalties under a variety of complex laws and regulations, and changes in governmental regulations could adversely affect our business and financial condition.

Our businesses must comply with and are affected by various U.S. government and foreign regulations that impact our operating costs, profit margins and our internal organization and operation of our businesses. These regulations affect how we do business and, in some instances, impose added costs. Any changes in applicable laws could adversely affect our business and financial condition. Any material failure to comply with applicable laws could result in contract termination, price or fee reductions or suspension or debarment from contracting. The more significant regulations include:

- the FAR and all department and agency supplements, which comprehensively regulate the formation, administration and performance of U.S. government contracts;
- the Truth in Negotiations Act and implementing regulations, which require certification and disclosure of all cost and pricing data in connection with certain contract negotiations;
- the ITAR, which control the export of items on the U.S. Munitions Control List administered by the U.S. Department of State;
- the Export Administration Regulations which control commercial, dual-use and select defense related articles;
- the Bureau of Alcohol, Tobacco, Firearms and Explosives regulations that control the manufacture, possession and sale of firearms and explosive devices and materials;

- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data;

- regulations of most state and regional agencies and foreign governments similar to those described above;
 - the trade sanctions laws and regulations administered by the U.S. Department of the Treasury's Office of Foreign Assets Control;

- the Sherman Act and Clayton Act, which proscribe unlawful, anti-competitive conduct and business practices;

- the Foreign Corrupt Practices Act and the U.K. Bribery Act;

- the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Protection Act;

- healthcare reform laws and regulations, including those enacted under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act of 2010;

- the Fair Labor Standards Act and similar state wage and hour laws;

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- tax laws and regulations in the U.S. and in other countries in which we operate;
- the EU's General Data Protection Regulation and any attendant European country legislation;
- the civil False Claims Act, which provides for substantial civil penalties and treble damages for violations, including for submission of a false or fraudulent claim to the U.S. government for payment or approval, and allows private litigants to pursue violations as "whistleblower" or qui tam actions on behalf of the U.S. government;
- the Procurement Integrity Act, which requires evaluation of ethical conflicts surrounding procurement activity and establishing certain employment restrictions for individuals who participate in the procurement process; and
- the Small Business Act and the Small Business Administration, size status regulations, which regulate eligibility for performance of government contracts which are set aside for, or a preference is given in the evaluation process if awarded to, specific types of contractors such as small businesses and minority-owned businesses.

Many of our U.S. government contracts contain organizational conflicts of interest clauses that may limit our ability to compete for or perform certain other contracts. Organizational conflicts of interest arise when we engage in activities that provide us with an unfair competitive advantage. A conflict of interest issue that precludes our competition for or performance on a significant program or contract could harm our prospects and negative publicity about a conflict of interest issue could damage our reputation.

In addition, the U.S. and foreign governments may revise existing contract rules and regulations or adopt new contract rules and regulations at any time and may also face restrictions or pressure regarding the type and amount of services it may obtain from private contractors. For instance, Congressional legislation and initiatives dealing with procurement reform and shifts in the buying practices of U.S. government agencies resulting from those proposals could have adverse effects on government contractors, including us. Any of these changes could impair our ability to obtain new contracts or renew contracts under which we currently perform when those contracts are eligible for re-competition. Any new contracting methods could be costly or administratively difficult for us to implement, which would adversely affect our business, results of operations and financial condition.

Our failure to identify, attract and retain qualified technical and management personnel could adversely affect our existing businesses, financial condition and results of operations.

We may not be able to identify, attract or retain qualified technical personnel, including engineers, computer programmers and personnel with security clearances required for classified work, or management personnel to supervise such activities that are necessary for maintaining and growing our existing businesses, which could adversely affect our financial condition and results of operations. The technically complex nature of our operations results in difficulties finding qualified staff. In our defense businesses especially, experienced personnel possessing

required security clearances are finite in number. A number of our employees maintain a top secret clearance level. Obtaining and maintaining security clearances for employees involves a lengthy process, and it is difficult to identify, recruit and retain employees who already hold security clearances. If our cleared employees lose or are unable to timely obtain security clearances or we lose a facility clearance, our U.S. government customers may terminate their contracts with us or decide not to renew such contracts upon their expiration. As a result, to the extent we cannot obtain or maintain the required security clearances for a particular contract, or we fail to obtain them on a timely basis, we may not generate the sales anticipated from the contract, which could harm our operating results. To the extent we are not able to obtain facility security clearances or engage employees with the required security clearances for a particular contract, we will be unable to perform that contract and we may not be able to compete for or win new awards for similar work.

In addition, in our transportation business, we frequently need to recruit new highly skilled people into technical roles in order to perform our contractual obligations. An inability to recruit such people and quickly integrate them into the business may cause us to not be able to meet contractual deadlines which could lead to the imposition of liquidated damages or termination of our contracts for default in certain cases.

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Our business could be negatively affected by cyber or other security threats or other disruptions.

We face cyber threats, threats to the physical security of our facilities and employees, including senior executives, and terrorist acts, as well as the potential for business disruptions associated with information technology failures, damaging weather or other acts of nature, and pandemics or other public health crises, which may adversely affect our business.

We routinely experience cyber security threats, threats to our information technology infrastructure and attempts to gain access to our company sensitive information, as do our customers, suppliers, subcontractors and joint venture partners. We may experience similar security threats at customer sites that we operate and manage as a contractual requirement.

Prior cyber-attacks directed at us have not had a material impact on our financial results, and we believe our threat detection and mitigation processes and procedures are robust. Due to the evolving nature of these security threats, however, the impact of any future incident cannot be predicted.

Although we work cooperatively with our customers and our suppliers, subcontractors, and joint venture partners to seek to minimize the impacts of cyber threats, other security threats or business disruptions, in addition to our internal processes, procedures and systems, we must also rely on the safeguards put in place by those entities.

The costs related to cyber or other security threats or disruptions may not be fully mitigated by insurance or other means. Occurrence of any of these events could adversely affect our internal operations, the services we provide to customers, loss of competitive advantages derived from our R&D efforts, early obsolescence of our products and services, our future financial results, our reputation or our stock price. The occurrence of any of these events could also result in civil and/or criminal liabilities.

We may incur significant costs in protecting our intellectual property which could adversely affect our profit margins. Our inability to obtain, maintain and enforce our patents and other proprietary rights could adversely affect our businesses' prospects and competitive positions.

We seek to protect our proprietary technology and inventions through patents and other proprietary-right protection, and also rely on trademark laws to protect our brand. However, we may fail to obtain the intellectual property rights necessary to provide us with a competitive advantage, and any of our owned or licensed intellectual property rights could be challenged, invalidated, circumvented, infringed or misappropriated.

We may also fail to apply for or obtain intellectual property protection in important foreign countries, and the laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States. If we are unable to obtain or maintain these protections, we may not be able to prevent third parties from using our technology and inventions, which could adversely affect our business.

The U.S. government, and the DoD in particular, has become more aggressive in seeking rights in all technical data, computer software, and computer software documentation that we may deliver under U.S. government contracts. The U.S. government generally takes the position that it has the right to royalty-free use of technologies that are developed under U.S. government contracts. Those rights include, but are not limited to, the ability of the government to provide that technical data, computer software, and computer software documentation to our competitors which may result in “leveling the playing field” for competitors and reducing our incumbency advantage during re-procurements for those goods or services. Thus, we may not have the right to prohibit the U.S. government from using certain technologies developed by us, and we may not be able to prohibit third party companies, including our competitors, from using those technologies in providing products and services to the U.S. government.

We may incur significant expense in obtaining, maintaining, defending and enforcing our intellectual property rights. We may fail to take the actions necessary to enforce our intellectual property rights and even if we attempt to enforce such rights we may ultimately be unsuccessful, and such efforts may result in our intellectual property rights being challenged, limited in scope, or declared invalid or unenforceable. Also, some aspects of our business and services may rely on technologies and software developed by or licensed from third parties, and we may not be able to maintain our relationships with such third parties or enter into similar relationships in the future on reasonable terms or at all.

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We also rely on trade secrets, proprietary know-how and continuing technological innovation to remain competitive. We have taken measures to protect our trade secrets and know-how, including seeking to enter into confidentiality agreements with our employees, consultants and advisors, but the measures we have taken may not be sufficient. For example, confidentiality agreements may not provide adequate protection or may be breached. We generally control and limit access to our product documentation and other proprietary information, but other parties may independently develop our know-how or otherwise obtain access to our technology, which could adversely affect our businesses' prospects and competitive position.

Assertions by third parties that we violate their intellectual property rights could have a material adverse effect on our business, financial condition and results of operations.

Third parties may claim that we, our customers, licensees or parties indemnified by us are infringing upon or otherwise violating their intellectual property rights. Such claims may be made by competitors seeking to obtain a competitive advantage or by other parties. Additionally, in recent years, individuals and groups have begun purchasing intellectual property assets for the purpose of making claims of infringement and attempting to extract settlements from companies like ours.

Any claims that we violate a third party's intellectual property rights can be time consuming and costly to defend and distract management's attention and resources, even if the claims are without merit. Such claims may also require us to redesign affected products and services, enter into costly settlement or license agreements or pay costly damage awards, or face a temporary or permanent injunction prohibiting us from marketing or providing the affected products and services. Even if we have an agreement to indemnify us against such costs, the indemnifying party may not have sufficient financial resources or otherwise be unable to uphold its contractual obligations. If we cannot or do not license the infringed technology on favorable terms or cannot or do not substitute similar technology from another source, our revenue and earnings could be adversely impacted.

We compete primarily for government contracts against many companies that are larger, better capitalized and better known than us. If we are unable to compete effectively, our business and prospects will be adversely affected.

Our businesses operate in highly competitive markets. Many of our competitors are larger, better financed and better known companies who may compete more effectively than we can. In order to remain competitive, we must keep our capabilities technically advanced and compete on price and on value added to our customers. Our ability to compete may be adversely affected by limits on our capital resources and our ability to invest in maintaining and expanding our market share. Consolidation in the industries in which we operate and government budget cuts may lead to pressure being placed on the margins we may earn on any contracts we win. In addition, should the transportation market move towards requiring contractors to provide up-front financing for contracts they are awarded (for example, our contract for the Chicago Open Standards Fare System and our contract for a fare payment system in Boston), we may need to

compete more heavily on the basis of our financial strength or alternate financial structures, which may limit the contracts we can service at any one time.

The terms of our financing arrangements may restrict our financial and operational flexibility, including our ability to invest in new business opportunities.

In March 2013, we entered into a note purchase and private shelf agreement pursuant to which we issued \$100.0 million of senior unsecured notes, bearing interest at a rate of 3.35% and maturing on March 12, 2025. In addition, pursuant to the agreement, on July 17, 2015, we issued an additional \$25.0 million of senior unsecured notes, bearing interest at a rate of 3.70% and maturing on March 12, 2025. Interest payments on the notes issued in 2013 and 2015 are due semi-annually and principal payments are due from 2021 through 2025. The agreement pertaining to the aforementioned notes also contained a provision that the coupon rate would increase by a further 0.50% should the company's leverage ratio exceed a certain level. On February 2, 2016 we revised the note purchase agreement and we issued an additional \$75.0 million of senior unsecured notes bearing interest at 3.93% and maturing on March 12, 2026. Interest payments on these notes are due semi-annually and principal payments are due from 2020 through 2026. At the time of the issuance of this last series of notes, certain terms and conditions of the note purchase and private shelf agreement were revised in

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coordination with the revision and expansion of the revolving credit agreement as discussed below in order to increase our leverage capacity.

We have a committed revolving credit agreement with a group of financial institutions in the amount of \$400.0 million which expires in August 2021 (Revolving Credit Agreement). As of September 30, 2018, there were no borrowings under this agreement and there were letters of credit outstanding totaling \$29.0 million, which reduce the available line of credit to \$371.0 million.

Our revolving credit agreement and note purchase and private shelf agreement each contain a number of customary covenants, including requirements for us to maintain certain interest coverage and leverage ratios and restrictions on our and certain of our subsidiaries' abilities to, among other things, incur additional debt, create liens, consolidate or merge with any other entity, or transfer or sell substantially all of their assets, in each case subject to certain exceptions and limitations. The occurrence of any event of default under these agreements may result in all of the indebtedness then outstanding becoming immediately due and payable, or the increase of the coupon rate for such indebtedness. For example, at March 31, 2017 we did not maintain the required leverage ratio. Therefore in May 2017 certain terms and conditions of the Revolving Credit Agreement and note purchase and private shelf agreement were further revised to allow us to maintain a higher level of leverage as of March 31, 2017 and for the remainder of the 2017 fiscal year. The revisions to the agreements do not impact the required leverage ratios in fiscal 2018 and subsequent years. This revision also contains a provision that the coupon rate may increase on all of the term notes discussed above by up to 0.75% should our leverage ratio exceed certain levels.

Additionally, we may employ the use of alternative financing structures, such as a synthetic lease, in order to fund certain construction projects related to the redevelopment of our corporate campus. Any such financing arrangements may further restrict our financial and operational flexibility.

Our corporate campus redevelopment plan may be subject to certain unanticipated financial, environmental, regulatory, and construction risks that are beyond the scope of our typical business activities.

We are in the process of exploring options to redevelop our corporate campus in San Diego and this redevelopment project may be subject to various risks associated with real property development including but not limited to financing, compliance with environmental laws and regulations, obtaining permits and other governmental approvals, regulatory compliance, changes in market conditions, labor and material shortages, legal claims, delays in completion, distract management's and employees' attention and resources, natural disasters, cost overruns, socio-political risks, and construction defects. Any of the abovementioned risks, or other risks generally associated with real property development, could increase our operational expenses, expose us to fines and penalties, disrupt our business operations, require us to expend additional resources, or expose us to other unanticipated liabilities that are not encountered in our typical business activities.

Our development contracts may be difficult for us to comply with and may expose us to third-party claims for damages.

We are often party to government and commercial contracts involving the development of new products and systems. These contracts typically contain strict performance obligations and project milestones. We cannot assure you we will comply with these performance obligations or meet these project milestones in the future. If we are unable to comply with these performance obligations or meet these milestones, our customers may terminate these contracts and, under some circumstances, recover damages or other penalties from us. If other parties elect to terminate their contracts or seek damages from us, it could materially harm our business and negatively impact our stock price.

Our revenues could be less than expected if we are not able to deliver services or products as scheduled due to disruptions in supply.

Since our internal manufacturing capacity is limited, we use third parties to supply certain products or components we use. While we use care in selecting our suppliers, we have less control over the reliability of supply, quality and price of products or components than if we manufactured them. In some cases, we obtain products from a sole supplier or a

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limited group of suppliers. Consequently, we risk disruptions in our supply of key products and components if our suppliers fail or are unable to perform because of shortages in raw materials, operational problems, strikes, natural disasters, financial condition or other factors. We may have disputes with our suppliers arising from, among other things, the quality of products and services or customer concerns about the supplier. If any of our suppliers fail to timely meet their contractual obligations or have regulatory compliance or other problems, our ability to fulfill our obligations may be jeopardized. Economic downturns can adversely affect a supplier's ability to manufacture or deliver products. Further, suppliers may also be enjoined from manufacturing and distributing products to us as a result of litigation filed by third parties, including intellectual property litigation. If we were to experience difficulty in obtaining certain products, there could be an adverse effect on our results of operations, customer relationships and reputation. Additionally, our suppliers could also increase pricing of their products, which could negatively affect our ability to win contracts by offering competitive prices.

Any material supply disruptions could adversely affect our ability to perform our obligations under our contracts and could result in cancellation of contracts or purchase orders, penalties, delays in realizing revenues, payment delays, as well as adversely affect our ongoing product cost structure.

Failure to perform by our subcontractors could materially and adversely affect our contract performance and our ability to obtain future business.

Our performance of contracts often involves subcontractors, upon which we rely to complete delivery of products or services to our customers. We may have disputes with subcontractors. A failure by a subcontractor to satisfactorily deliver products or services can adversely affect our ability to perform our obligations as a prime contractor. Any subcontractor performance deficiencies could result in the customer terminating our contract for default, which could expose us to liability for excess costs of reprocurement by the customer and have a material adverse effect on our ability to compete for other contracts.

Our future success will depend on our ability to develop new products, systems and services that achieve market acceptance in our current and future markets.

Both our commercial and government businesses are characterized by rapidly changing technologies and evolving industry standards. Accordingly, our performance depends on a number of factors, including our ability to:

- identify emerging technological trends and business models in our current and target markets;
- develop and maintain competitive products, systems and services;

- enhance our offerings by adding technological innovations that differentiate our products, systems and services from those of our competitors; and
- develop, manufacture and bring to market cost-effective offerings quickly.

We believe that, in order to remain competitive in the future, we will need to continue to develop new products, systems and services, and in some cases transition to a product-oriented approach as opposed to our historical, project oriented approach, all of which will require the investment of significant financial resources. The need to make these expenditures could divert our attention and resources from other projects, and we cannot be sure that these expenditures ultimately will lead to the timely development of new products, systems or services. In recent years, we have spent an amount equal to approximately 3% to 5% of our annual sales on internal R&D efforts. There can be no assurances that this percentage will not increase should we require increased innovations to successfully compete in the markets we serve. We may also experience delays in completing development and introducing certain new products, systems or services in the future due to their design complexity. Any delays could result in increased costs of development or redirect resources from other projects. In addition, we cannot provide assurances that the markets for our products, systems or services will develop as we currently anticipate, which could significantly reduce our revenue and harm our business. Furthermore, we cannot be sure that our competitors will not develop competing products, systems or services that gain market acceptance in

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advance of ours, or that cause our existing products, systems or services to become non-competitive or obsolete, which could adversely affect our results of operations.

If we deliver products or systems with defects, our reputation will be harmed, revenue from, and market acceptance of, our products and systems will decrease and we could expend significant capital and resources as a result of such defects.

Our products and systems are complex and frequently operate in high-performance, challenging environments. Notwithstanding our internal quality specifications, our products and systems have sometimes contained errors, defects and bugs when introduced. If we deliver products or systems with errors, defects or bugs, our reputation and the market acceptance and sales of our products and systems would be harmed. Further, if our products or systems contain errors, defects or bugs, we may be required to expend significant capital and resources to alleviate such problems and incur significant costs for product recalls and inventory write-offs. Defects could also lead to product liability lawsuits against us or against our customers, and could also damage our reputation. We have agreed to indemnify our customers in some circumstances against liability arising from defects in our products and systems. In the event of a successful product liability claim, we could be obligated to pay damages significantly in excess of our product liability insurance limits.

We face certain significant risk exposures and potential liabilities that may not be covered adequately by insurance or indemnity.

We are exposed to liabilities that are unique to the products and services we provide. A significant portion of our business relates to designing, developing, manufacturing, operating and maintaining advanced defense and transportation systems and products. New technologies associated with these systems and products may be untested or unproven. In addition, certain activities in connection with which our training systems are used or our services are provided are inherently dangerous.

While in some circumstances we may receive indemnification from U.S. and foreign governments, and we maintain insurance for certain risks, the amount of our insurance or indemnity may not be adequate to cover all claims or liabilities, and we may be forced to bear substantial costs from an accident or incident. It also is not possible for us to obtain insurance to protect against all operational risks and liabilities. Substantial claims resulting from an incident in excess of the indemnification we receive and our insurance coverage would harm our financial condition, results of operations and cash flows. Moreover, any accident or incident for which we are liable, even if fully insured, could negatively affect our standing with our customers and the public, thereby making it more difficult for us to compete effectively, and could significantly impact the cost and availability of adequate insurance in the future.

We may acquire other companies, which could increase our costs or liabilities or be disruptive to our business.

Part of our strategy involves the acquisition of other companies. For example, from fiscal 2015 through 2018, we acquired GATR, DTECH, TeraLogics, Vocality, MotionDSP, and Shield Aviation in connection with our strategic efforts to build and expand our C4ISR business.

We may not be able to integrate acquired companies successfully without substantial expense, delay or operational or financial problems. Such expenses, delays or operational or financial problems may include the following:

- we may need to divert management resources to integration, which may adversely affect our ability to pursue other more profitable activities;
- integration may be difficult as a result of the necessity of coordinating geographically separated organizations, integrating personnel with disparate business backgrounds and combining different corporate cultures;
- we may not be able to eliminate redundant costs anticipated at the time we select acquisition candidates; and
- one or more of our acquisitions may have unexpected liabilities, fraud risk, or adverse operating issues that we fail to discover through our due diligence procedures prior to the acquisition.

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As a result, the integration of acquired businesses may be costly and may adversely impact our results of operations and financial condition. Acquisitions also could result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, we may not achieve the anticipated benefits from any acquisition, in which case our results of operations, business, and financial condition may suffer.

Changes in future business or other market conditions could cause business acquisitions or investments and/or recorded goodwill or other long-term assets to become impaired, resulting in substantial losses and write-downs that would reduce our results of operations.

As part of our strategy, we have in the past acquired, and expect to continue to acquire, from time to time, businesses, or a minority or majority interest in a business. These acquisitions or investments are made upon analysis and due diligence procedures designed to achieve a desired return or strategic objective. These procedures often involve certain assumptions and judgment in determining acquisition price. After acquisition, unforeseen issues could arise which adversely affect the anticipated returns or which are otherwise not recoverable as an adjustment to the purchase price. Even after careful integration efforts, actual operating results may vary significantly from initial estimates.

A significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill. We evaluate our recorded goodwill balances for potential impairment annually as of July 1, or when circumstances indicate that the carrying value may not be recoverable. Any goodwill impairment could result in substantial losses and write-downs that would reduce our results of operations. For more information on the accounting policies we have in place for impairment of goodwill, see our discussion under “Valuation of Goodwill” in Item 7 of this Form 10-K.

Our employees or third-party contractors may engage in misconduct or other improper activities, which could harm our business, financial condition and results of operations.

We are exposed to the risk of employee and third-party contractor fraud or other misconduct. Employee and third-party contractor misconduct could include intentionally failing to comply with U.S. government procurement regulations, engaging in unauthorized activities, attempting to obtain reimbursement for improper expenses, or submitting falsified time records, which could result in legal proceedings against us, lost contracts or reduced revenues.

Employee and third-party contractor misconduct could also involve improper use of our customers’ sensitive or classified information, which could result in regulatory sanctions against us and serious harm to our reputation. Misconduct could also involve making payments to government officials or third parties that would expose us to being in violation of the Foreign Corrupt Practices Act, the UK Anti-Bribery Act or similar laws in other countries.

It is not always possible to deter employee or third-party contractor misconduct, and the precautions we take to prevent and detect this activity may not be effective in controlling unknown or unmanaged risks or losses, which could harm our business, financial condition and results of operations. In addition, alleged or actual employee or third-party contractor misconduct could result in investigations or prosecutions of employees or third-party contractors engaged in the subject activities, which could result in unanticipated consequences or expenses and management distraction for us regardless of whether we are alleged to have any responsibility.

Unanticipated changes in our tax provisions or exposure to additional tax liabilities could affect our profitability.

Our business operates in many locations under government jurisdictions that impose taxes based on income and other criteria. Changes in domestic or foreign tax laws and regulations, or their interpretation, could result in higher or lower tax rates assessed, changes in the taxability of certain revenues or activities, or changes in the deductibility of certain expenses, thereby affecting our tax expense and profitability. In addition, audits by tax authorities could result in unanticipated increases in our tax expense.

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Recent U.S. tax legislation may materially adversely affect our financial condition, results of operations and cash flows.

Recently-enacted U.S. tax legislation has significantly changed the U.S. federal income taxation of U.S. corporations, including by reducing the U.S. corporate income tax rate, limiting interest deductions, adopting elements of a territorial tax system, imposing a one-time transition tax on all undistributed earnings and profits of certain U.S.-owned foreign corporations, revising the rules governing net operating losses and the rules governing foreign tax credits, and introducing new anti-base erosion provisions. Many of these changes are effective immediately, without any transition periods or grandfathering for existing transactions. The legislation is unclear in many respects and could be subject to potential amendments and technical corrections, as well as interpretations and implementing regulations by the Treasury and Internal Revenue Service (IRS), any of which could lessen or increase certain adverse impacts of the legislation. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation, which often uses federal taxable income as a starting point for computing state and local tax liabilities.

While our analysis and interpretation of this legislation is ongoing, a provisional tax benefit of \$7.1 million has been recorded in the year ending September 30, 2018 related to the re-measurement of U.S. net deferred tax liabilities at the lower enacted corporate tax rate and other effects of the enactment of the legislation. These amounts may be subject to further adjustment in subsequent periods in accordance with subsequent interpretive guidance issued by the SEC or the IRS.

While some of the changes made by the tax legislation may be beneficial to us in one or more reporting periods and prospectively, other changes may adversely affect us on a going forward basis. We continue to work with our tax advisors to determine the full impact that the recent tax legislation will have on us. We urge our investors to consult with their legal and tax advisors with respect to the impact of such legislation on their respective tax situations.

Our results of operations have historically fluctuated and may continue to fluctuate significantly in the future, which could adversely affect our stock price.

Our results of operations are affected by factors such as the unpredictability of contract awards due to the long procurement process for most of our products and services, the potential fluctuation of governmental agency budgets, any timing differences between our work performed and costs incurred under a contract and our ability to recognize revenue and generate cash flow from such contract, the time it takes for the new markets we target to develop and for us to develop and provide products and services for those markets, competition and general economic conditions. Our contract type/product mix and unit volume, our ability to keep expenses within budget and our pricing affect our operating margins. Significant growth in costs to complete our contracts may adversely affect our results of operations in future periods and cause our financial results to fluctuate significantly on a quarterly or annual basis. In addition, certain contracts in our CTS segment are structured such that we incur significant expenses during the design and build phases of the contract that are not offset by revenue recognized or cash flows generated under the contract until we deliver a product or perform operational or maintenance services during the latter phases of the contract. Consequently, we do not believe that comparison of our results of operations from period to period is necessarily meaningful or predictive of our likely future results of operations. In future financial periods our operating results or cash flows may be below the expectations of public market analysts or investors, which could cause the price of our stock to decline significantly.

The funding and costs associated with our pension plans may cause our earnings, cash flows, and shareholders' equity to fluctuate significantly from year to year.

Certain of our employees in the U.S. are covered by a noncontributory defined benefit pension plan and approximately one-half of our European employees are covered by a contributory defined benefit pension plan. The impact of these plans on our GAAP earnings may be volatile in that the amount of expense we record for our pension plans may materially change from year to year because those calculations are sensitive to changes in several key economic assumptions, including discount rates, inflation, salary growth, expected return on plan assets, retirement rates and mortality rates. Changes in these factors affect our plan funding, cash flows, earnings, and shareholders' equity.

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We have taken certain actions to mitigate the effect of our defined benefit pension plans on our financial results. For example, benefits under the U.S. plan were frozen as of December 31, 2006, so no new benefits have accrued after that date, and benefits under the European plan were frozen as of September 30, 2010, though the European plan is a final pay plan, which means that benefits will be adjusted for increases in the salaries of participants until their retirement or departure from the company. U.S. and European employees hired subsequent to the dates of freezing of the respective plans are not eligible for participation in the defined benefit plans. For more information on how these factors could impact earnings, cash flows and shareholders' equity, see "Pension costs" in Item 7 of this Form 10-K.

We are subject to various investigations, claims and litigation that could ultimately be resolved against us.

The size, nature and complexity of our business make us susceptible to investigations, claims, and litigation, particularly those involving governments. We are and may become subject to investigations, claims and administrative, civil or criminal litigation globally and across a broad array of matters, including, but not limited to, government contracts, false claims, products liability, fraud, environmental, intellectual property, tax, export/import, anti-corruption, labor, health and safety, employee benefits and plans, including plan administration, and improper payments. These matters could divert financial and management resources; result in fines, penalties, compensatory, treble or other damages or non-monetary relief; and otherwise disrupt our business. Government regulations also provide that certain allegations against a contractor may lead to suspension or debarment from government contracts or suspension of export privileges for a company or one or more of its components. Suspension, debarment, or being proposed for debarment could have a material adverse effect on our company because of our reliance on government contracts and export authorizations. An investigation, claim or litigation, even if fully indemnified or insured, could also negatively impact our reputation among our customers and the public, and make it more difficult for us to compete effectively or obtain adequate insurance in the future. Investigations, claims or litigation could have a material adverse effect on our financial position, results of operations and/or cash flows.

Risks relating to our common stock

The price of our common stock may fluctuate significantly

An active, liquid and orderly market for our common stock may not be sustained, which could depress the trading price of our common stock.

Volatility in the market price of our common stock may prevent you from being able to sell your shares at or above the price you paid for your shares or at all. The market price of our common stock could fluctuate significantly for various reasons, which include:

- our quarterly or annual earnings or those of our competitors;
- the public's reaction to our press releases, our other public announcements and our filings with the SEC;
- changes in earnings estimates or recommendations by research analysts who track our common stock or the stocks of our competitors;
- inaccuracy of our guidance regarding future operating results;
- new laws or regulations or new interpretations of laws or regulations applicable to our business;
- changes in accounting standards, policies, guidance, interpretations or principles;
- changes in general conditions in the domestic and global economies or financial markets, including those resulting from war, incidents of terrorism or responses to such events;
- litigation involving our company or investigations or audits by regulators into the operations of our company or our competitors;

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- strategic action by our competitors; and
- sales of common stock by our directors, executive officers and significant shareholders.

In addition, the stock market in general has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may seriously affect the market price of our common stock, regardless of actual operating performance. In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. If litigation is instituted against us, it could result in substantial costs and a diversion of our management's attention and resources.

Your percentage ownership in us may be diluted by future issuances of capital stock, which could reduce your influence over matters on which shareholders vote.

Our board of directors has the authority, without action or vote of our shareholders, to issue all or any part of our authorized but unissued shares of common stock, including shares issuable upon the exercise of options and the vesting of restricted stock units, shares that may be issued in the future under our 2015 Incentive Award Plan or shares of our authorized but unissued preferred stock. Issuances of common stock or preferred voting stock could reduce your influence over matters on which our shareholders vote and, in the case of issuances of preferred stock, likely could result in your interest in us being subject to the prior rights of holders of that preferred stock.

Provisions in our charter documents and Delaware law could delay or prevent a change in control of Cubic.

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws may discourage, delay or prevent a merger, acquisition or other change in control that shareholders may consider favorable, including transactions in which shareholders might otherwise receive a premium for their shares. In addition, these provisions may frustrate or prevent any attempt by our shareholders to replace or remove our current management by making it more difficult to replace or remove our board of directors. These provisions include:

- prior to the date of the transaction, an affirmative vote of the holders of at least 66²/₃% of our outstanding common stock is required for the approval, adoption or authorization of a business combination;
- a prohibition on shareholder action through written consent;

- a requirement that special meetings of shareholders be called only by our board of directors or by a committee of our board of directors that has been duly designated to do so by our board of directors;
- the authority of our board of directors to issue preferred stock with such terms as our board of directors may determine; and
- a requirement for the affirmative vote of the holders of at least 66²/₃% of the total voting power of all outstanding shares of our voting stock to amend our amended and restated bylaws, or to amend specific provisions of our amended and restated certificate of incorporation.

In addition, Delaware law prohibits a publicly held Delaware corporation from engaging in a business combination with an interested shareholder, generally a person who, together with its affiliates, owns or within the last three years has owned 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested shareholder, unless the business combination is approved in a prescribed manner. Accordingly, Delaware law may discourage, delay or prevent a change in control of our company.

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If we are unable to pay semiannual dividends at the targeted level, our reputation and stock price may be harmed.

We have consistently paid cash dividends to our shareholders since 1971, and, in fiscal 2018, we paid \$7.4 million of cash dividends to our shareholders.

The dividend program requires the use of a portion of our cash flows. Our ability to continue to pay semiannual dividends will depend on our ability to generate sufficient cash flows from operations in the future. This ability may be subject to certain economic, financial, competitive and other factors that are beyond our control. Our board of directors may, at its discretion, decrease the targeted semiannual dividend amount or entirely discontinue the payment of dividends at any time. Any failure to pay dividends after we have announced our intention to do so may adversely affect our reputation and investor confidence in us, and negatively impact our stock price.

If securities or industry analysts cease to publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING INFORMATION

This report, including the documents incorporated by reference herein, contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to the safe harbor created by such Act. Any statements about our expectations, beliefs, plans, objectives, assumptions, future events or our future financial and/or operating performance, including those concerning new programs and growth in the markets in which we do business, Goal 2020 and our five key priorities, increases in demand for our products and for fully integrated systems, retention of existing contracts and receipt of new contracts, the development of new products, systems and services, expansion of our automated payment and fare collection systems and services, maintenance of long-term relationships with our existing customers, expansion of our service offerings and customer base for services, maintenance of a diversified business mix, expansion of our international footprint, strategic acquisitions, U.S. and foreign government funding, supplies of raw materials and purchased parts, cash needs, financial condition, liquidity, prospects, and the trends that may affect us or the industries in which we operate, are not historical and may be forward-looking. These statements are often, but not always, made through the use of words or phrases such as “may,”

“will,” “anticipate,” “estimate,” “plan,” “project,” “continuing,” “ongoing,” “expect,” “believe,” “intend,” “predict,” “potential” similar words or phrases or the negatives of these words or phrases. These forward-looking statements involve risks, estimates, assumptions and uncertainties, including those discussed in “Risk factors” and elsewhere throughout this report and in the documents incorporated by reference herein, that could cause actual results to differ materially from those expressed in these statements.

Such risks, estimates, assumptions and uncertainties include, among others: our dependence on U.S. and foreign government contracts; delays in approving U.S. and foreign government budgets and cuts in U.S. and foreign government defense expenditures; the ability of certain government agencies to unilaterally terminate or modify our contracts with them; the effects of potential sequestration on our contracts; our assumptions covering behavior by public transit authorities; our ability to successfully integrate new companies into our business and to properly assess the effects of such integration on our financial condition; the U.S. government’s increased emphasis on awarding contracts to small businesses, and our ability to retain existing contracts or win new contracts under competitive bidding processes; negative audits by the U.S. government; the effects of politics and economic conditions on negotiations and business dealings in the various countries in which we do business or intend to do business; competition and technology changes in the defense and transportation industries; the change in the way transit agencies pay for transit systems; our ability to accurately estimate the time and resources necessary to satisfy obligations under our contracts; the effect of adverse regulatory changes on our ability to sell products and services; our ability to identify, attract and retain qualified

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employees; our failure to properly implement our enterprise resource planning system; unforeseen problems with the implementation and maintenance of our information systems; business disruptions due to cyber security threats, physical threats, terrorist acts, acts of nature and public health crises; our involvement in litigation, including litigation related to patents, proprietary rights and employee misconduct; our reliance on subcontractors and on a limited number of third parties to manufacture and supply our products; our ability to comply with our development contracts and to successfully develop, introduce and sell new products, systems and services in current and future markets; defects in, or a lack of adequate coverage by insurance or indemnity for, our products and systems; changes in U.S. and foreign tax laws, exchange rates or our economic assumptions regarding our pension plans; unanticipated issues related to the restatement of our financial statements; our ability to monitor and evaluate the effectiveness of new processes and procedures we have implemented to remediate the material weaknesses that existed in our internal control over financial reporting; and other factors discussed elsewhere in this report.

Because the risks, estimates, assumptions and uncertainties referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. In addition, past financial and/or operating performance is not necessarily a reliable indicator of future performance and you should not use our historical performance to anticipate results or future period trends. Further, any forward-looking statement speaks only as of the date on which it is made, and, except as required by law, we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Item 1B. UNRESOLVED STAFF COMMENTS.

None

Item 2. PROPERTIES.

We conduct our operations in approximately 2.0 million square feet of both owned and leased properties located in the United States and foreign countries. We own approximately 54% of the square footage, including about 500,000 square feet located in San Diego, California and 423,000 square feet located in Orlando, Florida. All owned and leased properties are considered in good condition and adequately utilized. The following table identifies significant properties by business segment:

Location of Property	Owned or Leased
Corporate:	
Arlington, VA	Leased
San Diego, CA	Owned
Tullahoma, TN	Leased
Investment properties:	
Teterboro, NJ	Leased
Cubic Transportation Systems:	
Atlanta, GA	Leased
Balcatta, Australia	Leased
Brisbane, Australia	Leased
Burnaby, BC, Canada	Leased
Chicago, IL	Leased
Concord, CA	Leased
Concord, Canada	Leased
Concord, NH	Leased

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Location of Property	Owned or Leased
	Leased
Cumbermauld, Scotland	
Frankfurt, Germany	Leased
Glostrup, Denmark	Leased
Greenford, London, England	Leased
Hamburg, Germany	Leased
Hyderabad, India	Leased
Kingswood, Australia	Leased
London, England	Leased
Mallusk Newtonabbey, Ireland	Leased
Malmo, Sweden	Leased
Mascot, Australia	Leased
Merthsham, Surrey, England	Leased
Murrarie, Australia	Leased
New York, NY	Leased
Norwalk, CA	Leased
Oakland, CA	Leased
Salfords, Surrey, England	Owned
San Diego, CA	Owned
San Francisco, CA	Leased
Stockton-On-Tees, England	Leased
Sydney, Australia	Leased
Tullahoma, TN	Leased and Owned
Vancouver, BC	Leased
Warrington, Chesire, England	Leased
Wollongong, Australia	Leased
Cubic Global Defense:	
Abu Dhabi UAE	Leased
Auckland, New Zealand	Leased
Austin, TX	Leased
Brisbane, Australia	Leased
Canberra, Australia	Leased
Chippenham Wiltshire, England	Leased
Farnham, Surrey, England	Leased
Fyschwyck, Australia	Leased
Heisingor, Denmark	Leased
Orlando, FL	Leased and Owned
Riyadh, Saudi Arabia	Leased
Salisbury, UK	Leased
San Diego, CA	Leased and Owned
Shackleford, England	Leased
Singapore, Asia	Leased
Tampa, FL	Leased
Tijuana, Mexico	Leased
Townsville, Australia	Leased

Cubic Mission Solutions:

Aberdeen, MD	Leased
Ashburn, VA	Leased
Dallas, TX	Leased
Fayetteville, NC	Leased
Hanover, MD	Leased
Herndon, VA	Leased

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Location of Property	Owned or Leased
Huntsville, AL	Leased
San Diego, CA	Owned
Shackleford, England	Leased
Tampa, FL	Leased

Item 3. LEGAL PROCEEDINGS.

A former reseller of our air combat training systems in the Far East filed a demand for arbitration seeking monetary damages for claims including breach of contract. In the fourth quarter of fiscal 2018, the arbitrator awarded \$1.7 million to the former reseller. This amount was recorded as selling, general, and administrative expenses in our CGD segment during fiscal 2018 and these arbitration proceedings are now closed.

We consider all other matters to be ordinary proceedings incidental to our business. We believe the outcome of these other proceedings will not have a materially adverse effect on our financial position, results of operations, or cash flows.

Item 4. MINE SAFETY DISCLOSURES.

Not Applicable.

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PART II

Item 5. MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

The principal market on which our common stock is being traded is the New York Stock Exchange under the symbol CUB. The closing high and low sales prices for the stock, as reported in the consolidated transaction reporting system of the New York Stock Exchange for the quarterly periods during the past two fiscal years, and dividend information for those periods, are as follows:

MARKET AND DIVIDEND INFORMATION

Quarter	Sales Price of Common Shares				Dividends per Share	
	Fiscal 2018		Fiscal 2017		Fiscal 2018	Fiscal 2017
	High	Low	High	Low		
First	\$ 63.00	\$ 51.90	\$ 50.40	\$ 40.03	—	—
Second	65.65	54.05	55.25	46.45	\$ 0.14	\$ 0.14
Third	71.85	59.80	53.15	44.25	—	—
Fourth	76.85	65.90	51.95	40.20	\$ 0.14	\$ 0.14

On November 1, 2018, the closing price of our common stock on the New York Stock Exchange was \$65.87. There were 517 shareholders of record of our common stock as of November 1, 2018.

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Item 6. SELECTED FINANCIAL DATA.

FINANCIAL HIGHLIGHTS AND SUMMARY OF CONSOLIDATED OPERATIONS

(amounts in thousands, except per share data)

This summary should be read in conjunction with the related consolidated financial statements and accompanying notes in Item 8 of this Form 10-K.

	Year Ended September 30,				
	2018	2017	2016	2015	2014
Results of Operations:					
Sales	\$ 1,202,898	\$ 1,107,709	\$ 1,070,601	\$ 1,028,899	\$ 1,000,249
Cost of sales	835,392	779,323	766,477	729,179	725,522
Selling, general and administrative expenses (2)	258,644	240,601	253,163	195,752	165,706
Research and development	52,398	52,652	31,976	17,992	17,959
Interest expense	10,424	15,027	11,199	4,400	4,084
Income taxes (1)	7,093	14,658	(14,357)	46,626	13,796
Net income (loss) from continuing operations (1) (2)	7,793	(25,740)	(12,080)	10,170	60,815
Net income from discontinued operations	4,243	14,531	13,815	12,744	8,765
Net income (loss) attributable to Cubic (1) (2)	12,310	(11,209)	1,735	22,885	69,491
Per Share Data:					
Net income (loss) per share:					
Basic					
Continuing operations					
(1) (2)	\$ 0.30	\$ (0.95)	\$ (0.45)	\$ 0.38	\$ 2.27
Discontinued operations					
	\$ 0.16	\$ 0.54	\$ 0.51	\$ 0.47	\$ 0.33
Basic earnings per share (1)					
(2)	\$ 0.45	\$ (0.41)	\$ 0.06	\$ 0.85	\$ 2.59
Diluted					
Continuing operations					
(1) (2)	\$ 0.29	\$ (0.95)	\$ (0.45)	\$ 0.38	\$ 2.27
Discontinued operations					
	\$ 0.16	\$ 0.54	\$ 0.51	\$ 0.47	\$ 0.33
	\$ 0.45	\$ (0.41)	\$ 0.06	\$ 0.85	\$ 2.59

Diluted earnings per share
(1) (2)

Cash dividends	0.27	0.27	0.27	0.27	0.24
Shares used in calculating net income (loss) per share:					
Basic	27,229	27,106	26,976	26,872	26,787
Diluted	27,351	27,106	26,976	26,938	26,845
Year-End Data:					
Shareholders' equity related to Cubic	\$ 724,196	\$ 689,631	\$ 689,896	\$ 756,288	\$ 782,278
Equity per share, basic	26.60	25.44	25.57	28.14	29.20
Total assets	1,304,883	1,336,285	1,504,408	1,300,276	1,194,606
Long-term debt, net of current portion	199,793	199,761	200,741	126,705	102,390

(1) Fiscal 2018 tax provision includes a one-time tax benefit of \$7.1 million related to U.S. Tax Reform. Fiscal 2017 pretax loss totaled \$11.1 million while the income tax provision totaled \$14.7 million. The provision primarily resulted from tax on foreign earnings and U.S. tax expense related to the amortization of indefinite lived intangible assets, partially offset by tax benefit related to the release of reserves for uncertain tax positions due to the positions

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being effectively settled. Fiscal 2016 tax provision included \$6.3 million of expense related to nondeductible acquisition-related compensation, as well as \$23.8 million of tax benefit in connection with an acquisition involving significant U.S. deferred tax liabilities which allowed for a subsequent release of deferred tax valuation allowance. Fiscal 2015 tax provision included the effect of establishing a deferred tax valuation allowances on U.S. deferred tax assets totaling \$35.8 million.

- (2) Results of the year ended September 30, 2016 included an \$18.5 million charge related to a business acquisition purchase accounting charge, before applicable income taxes. See Note 2 of the Consolidated Financial Statements in Item 8 of this Form 10-K for further discussion of this charge.

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

Company Overview

Cubic is a technology-driven, market-leading global provider of innovative, mission-critical solutions that reduce congestion and increase operational readiness and effectiveness through increased situational understanding. Cubic Corporation designs, integrates and operates systems, products and services focused in the transportation, defense C4ISR and training markets. We serve the needs of various federal and regional government agencies in the U.S. and allied nations around the world with products and services that have both defense and civil applications.

Through September 30, 2017, our principal lines of business were transportation payments and information systems and services, defense systems, and defense services. On May 31, 2018, we sold the Cubic Global Defense Services (CGD Services) business. In March 2018, all of the criteria were met for the classification of CGD Services as a discontinued operation. As a result, the operating results, assets, liabilities, and cash flows of CGD Services have been classified as discontinued operations and have been excluded from amounts described below. In addition, we concluded that Cubic Mission Solutions became a separate operating segment and reportable segment beginning on October 1, 2017. As a result, we now operate in three reportable business segments: Cubic Transportation Systems (CTS), Cubic Global Defense Systems (CGD), and Cubic Mission Solutions (CMS). All of our business segments share a common mission of increasing situational awareness to create enhanced value for our customers worldwide through common technologies. Our defense customers benefit from increased readiness and effectiveness, while our transportation customers benefit from enhanced efficiency and reduced congestion. We organize our business segments based on the nature of the products and services offered.

For the fiscal year ended September 30, 2018, 56% of sales were derived from CTS, 27% were derived from CGD and 17% were derived from CMS. The U.S. government remains our largest customer, accounting for approximately 30% of sales in 2018, compared to 30% and 25% of sales in 2017 and 2016, respectively. In fiscal year 2018, 59% of our total sales were derived from products, with services sales accounting for the remaining 41%.

We are operating in an environment that is characterized by continuing economic pressures in the U.S. and globally. A significant component of our strategy in this environment is to focus on innovative solutions, program execution, improving the quality and predictability of the delivery of our products and services, and providing opportunities for customers to outsource services where we can provide a lower cost and more effective solution. Our international sales, including Foreign Military Sales (FMS), comprised 48% of our total sales for fiscal year 2018. Sales to countries outside the U.S. amounted to 59%, 52% and 3% of the total sales of CTS, CGD and CMS, respectively, for fiscal year 2018. To the extent our business and contracts include operations in countries outside the U.S., other risks are introduced into our business, including changing economic conditions, fluctuations in relative currency rates, regulation by foreign countries, and the potential for deterioration of political relations.

We continuously strive to strengthen our portfolio of products and services through innovation to meet the current and future needs of our customers. We accomplish this in part by our independent R&D activities, and through acquisitions. Company-sponsored R&D spending totaled \$52.4 million in 2018. In 2018, CTS continued to make R&D investments in new transportation product development, including fare collection technologies, real-time passenger information and development of tolling, intelligent transport systems (ITS) and analytic technologies. CGD's R&D expenditures increased in 2018 due to the acceleration of our development of next generation live, virtual, constructive, and game-based training systems. CMS has increased R&D expenditures between 2017 and 2018, primarily driven by development of our software definable antenna technology that will bring network wideband communications to our defense customers and support the development of the DoD's joint area layer network.

We selectively pursue the acquisition of businesses that complement our current portfolio and allow access to new customers or technologies. In pursuing our business strategy, we routinely conduct discussions, evaluate targets, and enter into agreements regarding possible acquisitions. As part of our business strategy, we seek to identify acquisition opportunities that will expand or complement our existing products and services, or customer base, at attractive valuations. From 2015 through 2018 we acquired GATR, DTECH, TeraLogics, Vocality, MotionDSP, and Shield

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Aviation in connection with our strategic efforts to build and expand our C4ISR business. These businesses provide wideband ultra-portable expeditionary satellite communication terminal solutions, secure video delivery, real time processing and enhancement, exploitation and dissemination of full motion video in the cloud, computer vision analytics, deployable secure computing tactical cloud and networking solutions equipment, and communication gateways. We have also made niche acquisitions of businesses during the past several years, including Deltenna in 2017. Generally, our business acquisitions are dilutive to earnings in the short-term due to acquisition-related costs, integration costs, retention payments and often higher amortization of purchased intangibles in the early periods after acquisition and expenses related to earn-outs. However, we expect that each of these recent acquisitions will be accretive to earnings in the long-term.

Industry Considerations

The U.S. government continues to focus on discretionary spending, tax, and other initiatives to control spending and reduce the deficit. More than 40 years since the Budget Act created the existing framework Congress has rarely followed the required process and deadlines. Regular order has not been fully followed since fiscal year 1995—the last time Congress passed a budget conference agreement followed by all 12 appropriations bills before the beginning of the new fiscal year. The trend over the past decades has been reliance on continuing resolutions. Nevertheless, we are encouraged by the U.S. Congress' return to near regular order and the passing of the defense appropriations bill and approximately 75% of other discretionary funding for FY19 with the remainder of appropriations placed under a short-term CR to avoid a full or partial government shutdown. The bipartisan, bicameral Joint Select Committee on Budget and Appropriations Process Reform is currently looking for solutions to make the process more efficient.

The president's administration and Congress will likely continue to debate the size and expected growth of the U.S. federal budget as well as the defense budget over the next few years and balance decisions regarding defense, homeland security, and other federal spending priorities in a constrained fiscal environment imposed by the Budget Control Act (BCA) and various Bipartisan Budget Acts (BBA) since 2011.

Budgetary considerations have put downward pressure on growth in the defense industry from 2011-2017 but under the BBA of 2018, defense budgets in 2018 and 2019 have shown significant increases from previous years. We believe that much of our business is well positioned in areas that the DoD has indicated are areas of focus for future increased defense spending to help the DoD meet its critical future capability requirements for protecting U.S. security and the security of our allies in the years to come.

Regarding international markets, global defense expenditures were again on the rise in 2018 reaching its highest level since the end of the Cold War at approximately \$1.67 trillion in 2018. Defense spending increased by approximately 3.3% in 2018 - the fastest rate of growth in a decade - driven by the largest year-on-year increase in U.S. defense spending since 2008. The increase in defense spending reflects improved economic conditions coupled with continuing instability in a number of key regions.

In transportation, we continue to believe that our products and services are critical to our customers to ensure that they maximize revenue and efficiencies in a resource constrained environment. Some customers have responded to the current market environment by seeking financing for their projects from the system supplier or from other sources. An example of this is our contract with the Massachusetts Bay Transit Authority (MBTA), which was awarded in early 2018 to develop, build, operate, and maintain a next-generation fare payment system in Boston. Under this contract, the MBTA required that we and a financing partner, John Laing, establish a public-private partnership (P3) in order to finance the design and build phase of the payment system. MBTA does not begin making payments until the ten-year operate and maintain phase of the contract, which will span from 2021 through 2031.

While future defense plans, changes in defense spending levels and changes in spending for transportation projects could have a materially adverse effect on our consolidated financial position, we have and plan to continue to make strategic investments and acquisitions to align our businesses in growth areas of our respective markets that we believe are the most critical priorities and mission areas for our customers.

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Segment Overview

Cubic Transportation Systems

CTS is a systems integrator of payment and information technology and services for intelligent travel solutions. We deliver integrated systems for transportation and traffic management, delivering tools for travelers to choose the smartest and easiest way to travel and pay for their journeys, and enabling transportation authorities and agencies to manage demand across the entire transportation network — all in real time. We offer fare collection and revenue management devices, software, systems and multiagency, multimodal integration technologies, as well as a full suite of operational services that help agencies and operators efficiently collect fares and revenue, manage operations, reduce revenue leakage and make transportation more convenient. Through our NextBus and Intelligent Transport Management Solutions (ITMS) businesses, respectively, we also deliver real-time passenger information systems for tracking and predicting vehicle arrival times and we are a leading provider of urban and inter-urban intelligent transportation and enforcement solutions and technology and infrastructure maintenance services to the United Kingdom and other international city, regional and national road and transportation agencies.

The transportation markets we serve are undergoing a substantial change. Pressure on transportation authorities to improve the customer experience while stretching their operating budgets is fueling a trend toward outsourced services and systems that enable innovation and lower operating cost. We believe we are positioned at the forefront of this change.

We believe that we hold the leading market position in large-scale automated fare payment and revenue management systems and services for major metropolitan areas. We have implemented and, in many cases, operate, automated fare payment and revenue management systems for some of the world's largest transportation systems; examples include London (Oyster/Contactless Payment), the New York region (Metrocard), the Chicago region (Ventra), the San Francisco Bay Area (Clipper), the Los Angeles region (TAP), the Washington D.C. region (Smartrip), the Vancouver region (Compass), the Sydney region (Opal Card) and the Brisbane region (Go Card). In fiscal 2018, we were awarded a contract by the New York Metropolitan Transportation Authority (MTA) to replace the MetroCard system with a New Fare Payment System (NFPS); a contract by the MBTA to provide the CharlieCard system with a next-generation fare payment system; a contract by the Queensland Department of Transportation & Main Roads to provide a new fare system for the state of Queensland, Australia; and a contract by the San Francisco Bay Area's Metropolitan Transportation Commission (MTC) to deliver next-generation fare payment technology and operational services to the Clipper smart card system serving the Bay Area.

In fiscal 2016 we were awarded a contract by the New Hampshire State Department of Transportation to deploy our back-office system for the purposes of toll revenue collection. We provide a modern tolling alternative that uses best-in-breed tools that are flexible and modular compared to the proprietary, legacy systems that the industry views as their only option.

Through our NextBus and ITMS businesses we provide advanced transportation operational management capabilities and related services to over 95 customers including organizations such as Transport for London, Transport Scotland, Highways England, Transport for Greater Manchester, Los Angeles Metro, San Francisco Muni and the Toronto Transit Commission. In August 2018, we were awarded an Intelligent Congestion Management Platform contract by Transport for New South Wales to provide Sydney, Australia with one of the world's most advanced transport management systems. The new system will enhance monitoring and management of the road network across New South Wales, coordinate the public transport network across all modes, improve management of clearways, planning of major events and improve incident clearance times, while providing real-time information and advice to the public about disruptions.

In addition to helping us secure similar projects in new markets, our comprehensive suite of new technologies and capabilities enables us to benefit from a recurring stream of revenues in established markets resulting from operations, innovative new services, technology refresh, equipment refurbishment and the introduction of new or adjacent applications.

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In 2018, revenues from services provided by CTS were \$382.6 million, or 57% of CTS sales, and revenues from product sales were \$288.1 million, or 43% of CTS sales.

We are currently designing and building major new systems in New York, Boston, Brisbane, and the Bay Area. Profit margins during the design and build phase of major projects can be slightly lower than during the operate-and-maintain phase. This has in the past caused, and may in the future cause, swings in profitability from period to period. In addition, cash flows are often negative during portions of the design-and-build phase, until major milestones are reached and cash payments are received.

Cash payment terms offered by our transportation customers in a competitive environment are sometimes not favorable to us. The customers' budget constraints often result in less funding available for the build of a new system, with more funds becoming available when the system becomes operational. This, coupled with the inherent risks in managing large infrastructure projects, can yield negative cash flows and lower and less predictable profit margins on contracts during the design and build phase. Conversely, during the operate-and-maintain phase, revenues and costs are typically more predictable and profit margins tend to be higher.

Gross profit margins from services sales in CTS were 25% and 28% for fiscal years 2018 and 2017, respectively, and gross profit margin from product sales was 25% and 29% in 2018 and 2017, respectively. The mix of product and services sales can produce fluctuations in margin from period-to-period and is generally caused by the mobilization or completion of project system delivery; however, as system delivery projects complete they generally transition to recurring service sales which add to a recurring services sales base which will increase over time.

Most of our sales in CTS for fiscal year 2018 were from fixed-price contracts. However, some of our service contracts provide for variable payments, in addition to the fixed payments, based on meeting certain service level requirements and, in some cases, based on system usage. Service level requirements are generally contingent upon factors that are under our control, while system usage payments are contingent upon factors that are generally not under our control, other than basic system availability. Development and system integration contracts in CTS are usually accounted for on a percentage-of-completion basis using the cost-to-cost method to measure progress toward completion, which requires us to estimate our costs to complete these contracts on a regular basis. Our actual results can vary significantly from these estimates and changes in estimates can result in significant swings in revenues and profitability from period to period. Generally, we are at risk for increases in our costs, unless an increase results from customer-requested changes. At times, there can be disagreement with a customer over who is responsible for increases in costs. In these situations we must use judgment to determine if it is probable that we will recover our costs and any profit margin.

Revenue under contracts for services in CTS is generally recognized either as services are performed or when a contractually required event has occurred, depending on the contract. Revenue under such contracts is generally recognized on a straight-line basis over the period of contract performance, unless evidence suggests that the revenue is earned or the obligations are fulfilled in a different pattern. Costs incurred under these services contracts are

expensed as incurred, and may vary from period to period. Incentive fees included in some of our CTS service contracts are recognized when they become fixed and determinable based on the provisions of the contract. As described above, often these fees are based on meeting certain contractually required service levels or based on system usage levels. Contractual terms can also result in variation of both revenues and expenses, resulting in fluctuations in earnings from period to period.

For certain CTS contracts for which we develop a system for a customer and subsequently operate and maintain the customer's system, the contract specifies that we will not be paid during system development, but rather we will be paid over the period that we operate and maintain the system. Under current revenue recognition guidance we cannot recognize revenue on these contracts until we begin receiving cash. In such situations, we defer the direct and incremental costs associated with the system development. For instance, for the fare collection system for the Chicago Transit Authority, the contract specifies that we would not begin to be paid until we entered the service period and we did not begin recognizing revenue on this contract until it entered the service period in August 2013. In addition, in early 2018, the Massachusetts Bay Transit Authority (MBTA), awarded us a contract to develop, build, operate, and maintain a next-generation fare payment system in Boston. Under this contract, the MBTA required that we and a financing partner, John Laing, establish a public-private partnership (P3) in order to finance the design and build phase of the

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payment system. MBTA does not begin making payments to our P3 until the ten-year operate and maintain phase of the contract, which will span from 2021 through 2031. We have concluded that under the relevant accounting guidance we are required to consolidate the financial statements of the P3, and that we cannot recognize revenue on this contract until MBTA begins making payments to the P3. As of September 30, 2018, we had capitalized \$86.2 million, net, in direct costs associated with all transportation customer contracts to develop and manufacture systems for customers for which revenue recognition does not begin until the customers begin operating the systems. Selling, general and administrative (SG&A) costs associated with such contracts are not being capitalized, but are being expensed as incurred.

Cubic Global Defense

CGD is a diversified supplier of live, virtual, constructive and game-based training solutions to the U.S. Department of Defense, other U.S. government agencies and allied nations. We offer a full range of training solutions for military and security forces. Our customized systems and services accelerate combat readiness in the air, on the ground and at sea while meeting the demands of evolving operations globally. Our range design business offers complete range design solutions for military, law enforcement, special forces and security training centers, including laser-engagement training simulation systems, live-fire range design, exercise planning, expert support and detailed After Action Reviews.

CGD designs and manufactures instrumented range systems for fighter aircraft, armored vehicles and infantry force-on-force live training weapons effects simulations, laser-based tactical and communication systems, and precision gunnery solutions.

CGD is continually building upon its role as a leader in air and ground combat training systems worldwide. Our products and systems help our customers to retain technological superiority with cost-effective solutions. We design, innovate, manufacture and field a diverse range of technologies that are critical to combat readiness, supply chain logistics and national security for the U.S. and allied nations. Our primary lines of business include air combat training ranges and after action review software, ground combat training systems, including a full range of laser engagement simulation systems, game-based learning systems, and virtual small arms training systems. We also provide ongoing support services for systems we have built for several of our international customers.

Our established international footprint in 50 allied nations is a key ingredient to our strategy. Our global footprint helps to insulate us from possible shifts or downturns in DoD spending. Sales to international customers of CGD are a major part of our business with 52% of sales in 2018 to international customers. In addition, new innovative technologies like live, virtual, constructive (LVC) training systems and potential expansion into adjacent markets gives us means to add scale to our business.

Fixed-price contracts accounted for 88% of CGD's revenue for fiscal year 2018. Development and system integration contracts in CGD are generally accounted for on a percentage-of-completion basis using the cost-to-cost method to measure progress toward completion, which requires us to estimate our costs to complete these contracts on a regular basis. Our actual results can vary significantly from these estimates and changes in estimate can result in significant swings in revenues and profitability from period to period. Generally, we are at risk for increases in our costs, unless an increase results from customer-requested changes. At times, there can be disagreement with a customer over who is responsible for increases in costs. In these situations we must use judgment to determine if it is probable that we will recover our costs and any profit margin.

CGD also has many long-term, fixed-price production contracts that do not require substantial development effort. For these contracts we use the units-of-delivery percentage-of-completion method as the basis to measure progress toward completing the contract and recognizing sales. The units-of-delivery measure recognizes revenues as deliveries are made to the customer generally using unit sales values in accordance with the contract terms. We estimate profit as the difference between total estimated revenue and total estimated cost of a contract and recognize that profit over the life of the contract based on deliveries.

Increasingly, CGD is receiving contracts from foreign customers to not only develop and deliver a system, but also to maintain the system for a period of years after the delivery. While service contracts have not historically been a significant part of our CGD business, this type of multiple-element contract has become more common in recent years.

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Revenues under contracts for services in CGD are generally recognized as services are performed on a straight-line basis over the period of contract performance. Costs incurred under these services contracts are expensed as incurred, and may vary from period to period, resulting in fluctuations in earnings.

CGD's gross profit margin in fiscal 2018 was 34%, compared to 29% in 2017 and 25% in 2016. At times, particularly favorable or unfavorable contracts can cause variation in this ratio, due to competition and the prevalence of fixed-price arrangements. Fixed-price contracts create both the risk of cost growth and the opportunity to increase margins if we are able to reduce our costs.

Cubic Mission Solutions

CMS provides networked C4ISR capabilities for defense, intelligence, security and commercial missions. CMS' core competencies include communications and electronics solutions such as high-speed data links, search-and-rescue avionics and customized signal intelligence products, deployable and tactical communications products, wideband ultra-portable expeditionary satellite communication terminal solutions, secure video delivery, real time processing, exploitation and dissemination of full motion video in the cloud, deployable secure computing tactical cloud and networking solutions equipment, and communication gateways.

CMS has experienced significant recent growth through acquisitions. From fiscal 2015 through 2018, CMS acquired DTECH, GATR, TeraLogics, Vocality, MotionDSP, and Shield Aviation in connection with our strategic efforts to build and expand our C4ISR business.

We believe CMS is well positioned to provide mission solutions at superior size, weight and power (SWaP) as compared to our competitors. We are combining our capabilities to deliver new innovative solutions that meet customer needs like our Transportable Tactical Command Communications (T2C2) program for the U.S. Army. We believe our innovation positions us well for the emerging joint aerial layer network for U.S. and coalition partners.

The vast majority of CMS' revenue for fiscal year 2018 was earned under fixed-price contracts with revenue recognized as deliveries are made to customers. CMS' gross profit margin in fiscal 2018 was 43%, compared to 35% in 2017, and is mostly dependent upon product sales mix and volume during the year.

Operating overview

Cubic Corporation sales increased 9% to \$1.203 billion in fiscal year 2018 from \$1.108 billion in 2017. The increases in sales for CTS and CMS of 16% and 23%, respectively, were partially offset by a decrease in CGD sales of 10%. The average exchange rates between the prevailing currencies in our foreign operations and the U.S. dollar between 2017 and 2018 had a positive impact on sales of \$11.9 million, which was 1% of 2018 sales. The impacts of changes in foreign currency exchange rates on sales from 2017 to 2018 predominantly affected our CTS segment results. See the segment discussions below for further analysis of segment sales.

Cubic Corporation sales increased 3% to \$1.108 billion in fiscal year 2017 from \$1.071 billion in 2016. The increase in sales for CMS of 54%, was partially offset by decreases in CTS and CGD sales of 1% and 4%, respectively. Revenues from businesses we acquired in 2017 and 2016, within our CGD and CMS segments, increased our consolidated sales by 5% from 2016 to 2017. Organic sales decreased slightly between fiscal years 2016 and 2017 primarily due to the negative impact of changes in foreign currency exchange rates. The average exchange rates between the prevailing currencies in our foreign operations and the U.S. dollar had a negative impact on sales of 2%, or \$19.9 million in 2017 compared to 2016. The impacts of changes in foreign currency exchange rates on sales from 2016 to 2017 predominantly affected our CTS segment results.

Operating income increased to \$24.4 million in 2018 compared to \$2.6 million in 2017 driven by improved profitability in our CTS and CMS businesses. CTS operating income increased by 52% to \$60.4 million in 2018 compared to \$39.8 million in 2017, primarily due to increased volumes, disciplined execution, the transition of investments to contracts and cost improvements that were realized following prior year investments in cost reduction activities. CMS had an operating

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loss of \$0.1 million in fiscal 2018 compared to an operating loss of \$9.3 million in 2017 driven by higher volume including the T2C2 Full Rate Production. CGD's operating income decreased 41% to \$16.6 million in 2018 compared to \$28.1 million in 2017. CGD's 2017 results included a one-time positive impact for a Request for Equitable Adjustment of \$8.0 million. Businesses acquired in 2018 and 2017 generated operating losses of \$4.6 million in 2018 compared to \$3.1 million in 2017. Unallocated corporate and other costs were \$52.5 million in 2018 compared to \$56.0 million in 2017, and included expenses related to strategic and IT system resource planning as part of our One Cubic initiative totaling \$24.1 million in 2018 and \$34.4 million in 2017. The average exchange rates between the prevailing currencies in our foreign operations and the U.S. dollar resulted in an increase in operating income of \$2.1 million in 2018 compared to 2017. See the segment discussions below for further analysis of segment operating income (loss).

Operating income increased to \$2.6 million in 2017 compared to an operating loss of \$11.6 million in 2016. CGD's operating income increased 41% to \$28.1 million in 2017 compared to \$19.9 million in 2016. CMS had an operating loss of \$9.3 million in 2017 and \$37.0 million in 2016. The CMS operating losses in 2017 and 2016 were primarily caused by the impact of purchase accounting on businesses acquired in this segment during fiscal 2017 and 2016. Businesses acquired by our CMS segment in 2017 and 2016 generated operating losses of \$3.3 million in 2017 compared to \$29.3 million in 2016. These operating losses for acquired businesses in our CMS segment include acquisition transaction costs and other acquisition-related charges, including an \$18.5 million charge incurred for the GATR acquisition in fiscal 2016 described in the CMS segment section below. CTS operating income decreased by 31% primarily due to increased R&D investment in fiscal year 2017 and the impact of cost growth on a toll contract. Unallocated corporate and other costs were \$56.0 million in 2017 compared to \$52.0 million in 2016, and included expenses related to strategic and IT system resource planning as part of our One Cubic initiative totaling \$34.4 million in 2017 and \$34.8 million in 2016. The average exchange rates between the prevailing currencies in our foreign operations and the U.S. dollar resulted in a decrease in operating income of \$1.4 million in 2017 compared to 2016.

Our net income from continuing operations was \$8.1 million (\$0.29 per share) in 2018, compared to net losses from continuing operations of \$25.7 million (\$0.95 per share) in 2017 and \$12.1 million (\$0.45 per share) in 2016. These changes in net income (loss) were primarily related to the changes in operating income (loss) described above and the changes in tax expense (benefit) described below.

Our gross margin percentage from product sales was 33% in 2018, compared to 31% in 2017. The increase in product sales gross margins was primarily due to supply chain cost savings and improved sales mix of higher-margin products including secure networks and expeditionary satellite communications products. In addition, we drove improved profitability on certain larger CTS development contracts. The gross margin on service sales was 27% in 2018 compared to 28% in 2017. The slight decrease in gross margins on service sales was primarily driven by a change in mix in our service contracts.

The gross margin from product sales was 31% in 2017, compared to 28% in 2016. The increase in gross margin percentage was primarily due to increased product sales by our CMS segment. In addition, product sales gross margins were positively impacted in 2017 by an \$8.0 million equitable contract adjustment on a CGD contract to

provide virtual training software to the U.S. Navy. As such, we recognized \$8.0 million in sales and operating income related to this contract adjustment during fiscal 2017. The gross margin on service sales was 28% in 2017 and 2016.

SG&A expenses increased to \$258.6 million or 22% of sales in 2018, compared to \$240.6 million or 22% of sales in 2017. The increase in total SG&A expense was primarily due to increases in bid and proposal costs on new business pursuits and a \$4.9 million increase in expense related to contingent consideration for recent business acquisitions between these periods. Contingent consideration on business acquisitions is measured at its estimated fair value at each reporting period based upon a number of assumptions including projections regarding whether the acquired companies are expected to achieve goals that will trigger payment of the consideration. Changes in the fair value of contingent consideration are recognized in SG&A expense. SG&A expense also increased as a result of the SG&A expenses of businesses acquired in fiscal 2018 and 2017. These increases in SG&A expenses were partially offset by a decrease in expenses related to strategic and IT system resource planning as part of our One Cubic initiative, which totaled \$24.1 million in 2018 compared to \$34.4 million in 2017.

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SG&A expenses decreased to \$240.6 million or 22% of sales in 2017, compared to \$253.2 million or 24% of sales in 2016. The decrease in total SG&A expenses is primarily due to lower SG&A expenses recognized in 2017 in connection with recent business acquisitions as compared to 2016. Business acquisition expenses include amounts recorded for business purchase accounting matters described in the CGD and CMS sections below and totaled \$28.7 million in 2016. The net business acquisition expenses were not significant in fiscal 2017. SG&A expenses related to strategic and IT system resource planning totaled \$34.4 million in 2017 compared to \$34.8 million in 2016.

Company-sponsored R&D spending totaled \$52.4 million in 2018 compared to \$52.7 million in 2017 and \$32.0 million in 2016. Company-sponsored R&D spending for CTS was \$13.4 million, \$26.3 million, and \$15.6 million for 2018, 2017, and 2016, respectively. R&D expenses for CTS in 2017 included \$6.4 million of expenses related to our contract with the New York Metropolitan Transit Authority that was awarded in early fiscal 2018; expenses incurred in 2018 are classified as cost of sales. CTS also continues to make significant R&D investments in new transportation product development, including fare collection technologies, real-time passenger information and development of tolling, ITS and analytic technologies. Company-sponsored R&D spending for CGD was \$16.3 million, \$14.4 million, and \$6.4 million, in 2018, 2017 and 2016, respectively. The increases in CGD's R&D expenditures have been caused by the acceleration of our development of next generation live, virtual, constructive, and game-based training systems. Company-sponsored R&D spending for CMS was \$22.7 million, \$11.9 million, and \$10.0 million, in 2018, 2017 and 2016, respectively. The increases in CMS R&D expenses were largely related to the acceleration of our development of our software definable antenna technology.

Interest and dividend income was \$1.6 million in 2018 compared to \$1.0 million in 2017 and \$1.4 million in 2016. The increase in interest income in fiscal 2018 was primarily due to income on notes receivable from Shield Aviation that we held for a portion of fiscal year 2018 prior to our acquisition of that company. The change in interest and dividend income between 2016 and 2017 was correlated with changes in our average cash balances. Interest expense was \$10.4 million in 2018 compared to \$15.0 million in 2017 and \$11.2 million in 2016. The change in interest expense generally reflected the change in our average outstanding debt balances for these years, including the reduction in outstanding debt in 2018 caused by the use of proceeds from the sale of CGD Services to repay short-term borrowings in the third quarter of fiscal 2018.

Other income (expense) netted to expense of \$0.7 million, \$0.4 million, and \$2.3 million in fiscal years 2018, 2017, and 2016, respectively. During fiscal year 2016, we recognized a loss within other expense of \$2.7 million related to the partial settlement of our remaining obligations associated with our U.S. defined benefit pension plan. We offered certain retired, vested participants the opportunity to voluntarily elect to receive their benefits as an immediate lump sum distribution. The lump sum distribution was paid out from plan assets in September 2016 and resulted in a settlement loss of \$2.7 million. Other than this settlement loss, the changes in other income (expense) were caused primarily by the impact of foreign currency exchange rate changes on cash advances to our foreign subsidiaries that are not hedged.

Our income tax provision totaled \$7.1 million (effective rate of 48%) for fiscal 2018, compared to an income tax provision of \$14.7 million (effective rate of negative 132%) for fiscal 2017 and an income tax benefit of \$14.4 million for fiscal 2016 (effective rate of 54.3%). As a result of the Tax Cuts and Jobs Act of 2017 (Tax Act), tax expense for

fiscal 2018 includes a one-time non-cash tax benefit of \$7.1 million, primarily related to the re-measurement of certain U.S. deferred tax liabilities and the impact of the utilization of indefinite lived deferred tax liabilities as a source of future taxable income when assessing the realizability of indefinite lived deferred tax assets. The expense for income taxes in fiscal 2017 primarily results from tax on foreign earnings and U.S. tax expense related to the amortization of indefinite lived intangible assets, partially offset by a benefit related to the release of reserves for uncertain tax positions due to the positions being effectively settled. The tax benefit for income taxes in fiscal 2016 generally related to a business combination in which we acquired significant U.S. deferred tax liabilities as well as a utilization and subsequent release of the deferred tax valuation allowance in Australia. Generally, the year-over-year comparison of effective tax rates is not meaningful due to the impact of applying the accounting guidance provided by Accounting Standards Codification (ASC) 740-20-45-7, which requires allocation of tax expense amongst all components of income in certain situations and the impact of the U.S. deferred tax asset valuation allowance. The change in the valuation allowance does not have any impact on our consolidated operations or cash flows, nor does such an allowance preclude us from using loss carryforwards or other deferred tax assets in the future. Until we re-establish a pattern of continuing profitability, in accordance with the applicable accounting guidance, U.S. income tax expense or benefit related to the recognition of

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deferred tax assets in the consolidated statement of operations for future periods will be offset by decreases or increases in the valuation allowance with no net effect on the consolidated statement of operations.

Our effective tax rate could be affected in future years by, among other factors, the mix of business between U.S. and foreign jurisdictions, fluctuations in the need for a valuation allowance against deferred tax assets, our ability to take advantage of available tax credits and audits of our records by taxing authorities.

As of September 30, 2018, a total valuation allowance of \$81.8 million has been established against U.S. deferred tax assets, certain foreign operating losses and other foreign assets. For fiscal 2018, the valuation allowance was increased by \$24.7 million, of which \$21.1 million was recorded as a net tax expense in our Consolidated Statement of Operations, offset by amounts recorded to other components of income. We will continue to assess the need for a valuation allowance on deferred tax assets and should circumstances change it is possible the valuation allowance, or a portion thereof, will be reversed.

Our net income from discontinued operations was \$4.2 million, \$14.5 million, and \$13.8 million for fiscal years 2018, 2017, and 2016, respectively. In fiscal 2018, net income from discontinued operations includes a loss on the sale of CGD Services of \$6.1 million, which was calculated as the excess of the carrying value of the net assets of CGD Services at the sale date over the sales price, less selling costs of \$4.5 million. Earnings from discontinued operations before income taxes totaled \$14.2 million, \$14.9 million, and \$19.0 million for fiscal years 2018, 2017, and 2016, respectively. The increase in the average monthly earnings from discontinued operations before income taxes between 2017 and 2018 was attributable to increased readiness and training exercises. The decrease in earnings from discontinued operations before income taxes between fiscal years 2016 and 2017 was primarily driven by the decreased activity on the U.S. Army and Special Operations Forces training contracts. The income tax provision for discontinued operations was \$1.6 million, \$0.4 million and \$5.1 million for fiscal years 2018, 2017, and 2016, respectively, based upon the application of accounting guidance.

Transportation Systems Segment

	September 30,		
	2018	2017	2016
	(in millions)		
Transportation Systems Segment Sales	\$ 670.7	\$ 578.6	\$ 586.4
Transportation Systems Segment Operating Income	\$ 60.4	\$ 39.8	\$ 57.5

CTS sales increased 16% to \$670.7 million in 2018 compared to \$578.6 million in 2017 and were higher in North America and the U.K., but were slightly lower in Australia. Sales in 2018 were higher in the U.S. primarily due to system development on the New York New Fare Payment System contract, which was awarded in October 2017.

Increased work on both development and service contracts, including work on new change orders in London also increased CTS sales for the year. Sales were also positively impacted in the U.K. and Australia due to the impact of exchange rates. The average exchange rates between the prevailing currencies in our foreign operations and the U.S. dollar resulted in an increase in CTS sales of \$12.4 million for 2018 compared to 2017, primarily due to the strengthening of the British Pound against the U.S. dollar.

CTS sales decreased 1% to \$578.6 million in 2017 compared to \$586.4 million in 2016 due to the adverse impact of foreign currency exchange rates. The average exchange rates between the prevailing currencies in our foreign operations and the U.S. dollar resulted in a decrease in CTS sales of \$21.1 million for 2017 compared to 2016, primarily due to the weakening of the British Pound against the U.S. dollar. Absent the impact of exchange rates, sales would have increased by 2% in fiscal 2017 as compared to 2016. Sales in the U.K. and North America decreased in fiscal 2017 from 2016, while sales in Australia increased in fiscal 2017 from 2016. In 2017 and 2016 sales and operating income benefitted from the finalization of negotiations to clarify scope, pricing and service level provisions of certain customer contracts. Although we had been recognizing costs on these contracts as incurred, we had deferred revenue on these contracts until such negotiations were complete on each respective contract. The finalization of these contracts increased CTS sales and operating income by \$20.8 million in fiscal 2017 and by \$10.4 million in fiscal 2016.

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Absent the impact of exchange rates, sales in the U.K. would have increased 5% in fiscal 2017 as compared to fiscal 2016 primarily due to increased service work with a customer in London. Sales in North America decreased in fiscal 2017 due primarily to the reduction of development work on our contract in Vancouver, which is scheduled to decrease over time as the contract has transitioned from a primarily developmental phase to a largely service provision phase. Sales in Australia increased primarily due to increased system development work in 2017 and the impact of certain of the customer negotiation resolutions noted above.

CTS operating income increased 52% in 2018 to \$60.4 million compared to \$39.8 million in 2017. For 2018, operating income was higher from increased volumes of system development work and services, including work on new projects and change orders, primarily in North America and the U.K. Operating income was also higher due to operational efficiencies and reductions in R&D spending. R&D expenses for CTS in 2017 included \$6.4 million of system development expenses related to our anticipated contract with the New York Metropolitan Transit Authority that was awarded in early fiscal 2018; such expenses incurred in 2018 on this contract are classified as cost of sales. During the first quarter of fiscal year 2018 CTS implemented our new enterprise resource planning (ERP) system, and as a result began amortizing the cost of certain capitalized software into its operating results. This resulted in a decrease in operating income of \$4.2 million between fiscal 2017 and fiscal 2018. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar resulted in an increase in CTS operating income of \$2.2 million for 2018 compared to 2017.

CTS operating income decreased 31% in 2017 to \$39.8 million compared to \$57.5 million in 2016. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar resulted in a reduction in CTS operating income of \$2.1 million for 2017 compared to 2016. A primary driver of the decrease in CTS operating income in fiscal 2017 was a \$10.7 million increase in R&D expenditures related primarily to the development of next-generation fare collection, mobile and NextBus technologies. Also, the increase in R&D expenses included \$6.4 million of system development expenses that CTS recognized during fiscal 2017 related to the anticipated contract with the New York Metropolitan Transit Authority that was awarded in early fiscal 2018.

Operating income between 2016 and 2017 decreased in North America and the U.K., partially offset by increased operating income in Australia driven by increased development work and certain of the customer negotiation resolutions noted above. Operating income in fiscal 2017 decreased for the U.K. on a lower volume of system development work as compared to the amount of work performed in fiscal 2016, as well as the adverse impact of currency exchange rates described above. Operating income for fiscal 2017 decreased for North America primarily due to an increase in estimated costs on a toll contract.

Amortization of purchased intangibles included in the CTS operating results totaled \$5.2 million, \$5.7 million, and \$7.1 million in 2018, 2017 and 2016, respectively.

Cubic Global Defense Segment

	September 30,		
	2018	2017	2016
	(in millions)		
Cubic Global Defense Segment Sales	\$ 325.2	\$ 360.2	\$ 374.7
Cubic Global Defense Segment Operating Income	\$ 16.6	\$ 28.1	\$ 19.9

CGD sales decreased 10% to \$325.2 million in 2018 compared to \$360.2 million in 2017. The year-over-year comparative sales and operating income were significantly impacted by an \$8.0 million gain recognized on an equitable contract adjustment in fiscal 2017 for our littoral combat ship virtual training contract with the U.S. Navy. Sales were lower in fiscal 2018 on virtual training sales, air combat training system sales, and ground combat training system sales, while sales of international training support services increased between fiscal 2017 and 2018. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar had no significant impact on CGD sales between 2017 and 2018.

CGD sales decreased 4% to \$360.2 million in 2017 compared to \$374.7 million in 2016 primarily due to decreased sales of virtual and immersive training systems. Sales of air and ground combat training systems were relatively flat in fiscal

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2017 compared to fiscal 2016. In addition, in June 2017, funding was approved on an \$8.0 million equitable contract adjustment for a virtual training contract with the U.S. Navy. As such, we recognized \$8.0 million in sales and operating income related to this contract adjustment during fiscal 2017. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar had no significant impact on CGD sales between 2016 and 2017. Businesses acquired in our CGD segment in fiscal years 2017 and 2016 contributed sales of \$3.4 million in 2017 compared to \$2.2 million in 2016.

CGD had operating income of \$16.6 million in 2018 compared to \$28.1 million in 2017. The decrease in operating income was primarily caused by the gain of \$8.0 million recognized in fiscal 2017 due to the approval of a contract adjustment with the U.S. Navy described above. In fiscal 2018 an arbitrator awarded \$1.7 million to a former reseller of our air combat training systems in the Far East, which was recorded as SG&A expense by CGD in 2018. In addition, CGD's R&D expenditures increased approximately \$1.8 million year-over-year. The increase in R&D expenditures is indicative of the acceleration of our development of next generation live, virtual, constructive, and game-based training systems. These decreases in operating income in fiscal 2018 were partially offset by increased operating income from ground combat training systems, which was higher primarily due to improvements in expected total costs for the development of two ground combat training system contracts in the Far East. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar had no significant impact on CGD operating income between 2017 and 2018.

CGD had operating income of \$28.1 million in 2017 compared to \$19.9 million in 2016. Operating income for fiscal 2017 increased due to the \$8.0 million equitable contract adjustment for our virtual training contract noted above. Also, although total sales of ground combat training systems were relatively flat between fiscal years 2016 and 2017, there was an improved mix of sales of higher margin ground combat systems in 2017 as compared to 2016. Operating income from ground combat training systems in fiscal 2016 was negatively impacted by cost growth that was recognized in the second quarter of fiscal 2016 on a ground combat training system that we developed in the Far East. Partially offsetting the increase in CGD operating income in fiscal year 2017 was an increase in CGD R&D expenditures between fiscal years 2016 and 2017 of \$8.0 million related to the development of innovative ground live and virtual training technologies. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar had no significant impact on CGD operating income between 2016 and 2017.

Cubic Mission Solutions Segment

	September 30,		
	2018	2017	2016
	(in millions)		
Cubic Mission Solutions Segment Sales	\$ 207.0	\$ 168.9	\$ 109.5
Cubic Mission Solutions Segment Operating Loss	\$ (0.1)	\$ (9.3)	\$ (37.0)

CMS sales increased 23% to \$207.0 million in fiscal 2018 compared to \$168.9 million in 2017. The increase in sales was primarily due to increased orders and shipments of expeditionary satellite communications products, tactical networking products, and Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) products and services. Businesses acquired during fiscal years 2018 and 2017 whose operations are included in our CMS operating segment had sales of \$5.6 million and \$1.5 million for fiscal years 2018 and 2017, respectively.

CMS sales increased 54% to \$168.9 million in 2017 compared to \$109.5 million in 2016 primarily due to sales from acquired businesses. Businesses acquired in our CMS segment in fiscal years 2017 and 2016 contributed sales of \$105.5 million in 2017 compared to \$57.1 million in 2016. The largest increase in sales related to acquired businesses was the increase in sales of GATR's expeditionary satellite communication terminal solutions. Sales were also higher in fiscal 2017 from organic CMS business, including sales of secure data links, personnel locator devices, and modular networking and broadband communications equipment.

CMS had an operating loss of \$0.1 million in 2018 compared to \$9.3 million in 2017. CMS realized increased profits from expeditionary satellite communications products, tactical networking products, and C2ISR products and services. Amortization of purchased intangibles included in the CMS results amounted to \$20.8 million and \$23.6 million in 2018

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and 2017, respectively. The \$2.8 million decrease in amortization expense related to purchased intangible assets that are amortized based upon accelerated methods. CMS increased R&D expenditures between 2017 and 2018 by \$10.8 million, primarily driven by development of new antenna technologies. Businesses acquired by CMS in fiscal years 2018 and 2017 incurred operating losses of \$4.7 million in fiscal 2018 compared to \$2.9 million in fiscal 2017. Included in the operating loss incurred by acquired businesses are acquisition transaction costs of \$1.6 million and \$1.8 million incurred in fiscal years 2018 and 2017, respectively.

CMS had an operating loss of \$9.3 million in 2017 compared to \$37.0 million in 2016. The change in CMS operating results was significantly influenced by the impacts of accounting for CMS business acquisitions in fiscal 2016 and 2017. CMS-acquired businesses incurred operating losses of \$3.3 million in fiscal 2017 compared to \$29.3 million in fiscal 2016. Included in the operating loss incurred by acquired businesses are acquisition transaction costs of \$27.1 million incurred in fiscal 2016. There were no significant net acquisition transaction costs in fiscal 2017. Business acquisition transaction costs consist of expenses incurred for retention bonus expenses, due diligence and consulting costs incurred in connection with the acquisitions, expenses recognized related to the change in the fair value of contingent consideration for acquisitions and, most significantly for fiscal 2016, expenses recognized in connection with our acquisition of GATR. GATR's operating loss for fiscal 2016 was significantly impacted by the GAAP accounting requirements regarding business combinations. Prior to our acquisition of GATR, GATR had a number of share-based payment awards in place to its employees. Due to the structure of certain of these share-based payment awards, we were required to recognize compensation expense, rather than purchase consideration, for the portion of our purchase price that we paid to the seller that was distributed to the recipients of these awards. Consequently, we recognized \$18.5 million of compensation expense during fiscal 2016 related to this matter upon completing this acquisition. In addition, operating income improved between fiscal years 2016 and 2017 on higher sales of secure data links, personnel locator devices, and modular networking and broadband communications equipment.

Amortization of purchased intangibles included in the CMS results amounted to \$20.8 million, \$23.6 million, and \$20.8 million in 2018, 2017 and 2016, respectively.

Liquidity and Capital Resources

Operating activities from continuing operations provided cash of \$8.6 million in fiscal 2018, used cash of \$3.0 million in fiscal 2017, and provided cash of \$24.0 million in fiscal 2016. As further described below, from 2016 to 2018 our operating cash flows have been significantly impacted by uses of cash related to our investment in a new ERP system, accounting for recent business acquisitions, and by the payment terms on some of our larger customer contracts.

Cash used in connection with the design and development of our new ERP system as well as information technology process and supply chain redesign totaled \$33.6 million in fiscal 2018. Certain costs incurred in the development of internal-use software and software applications, including external direct costs of materials and services and applicable compensation costs of employees devoted to specific software development, are capitalized as computer software assets. Costs incurred outside of the application development stage, or that do not meet the capitalization

requirements, are expensed as incurred. Of the \$33.6 million of cash used in 2018 in these efforts, \$24.1 million was recognized as expense and is reflected in our 2018 cash flows used in operations, while \$9.5 million was capitalized and is included in 2018 purchases of property, plant and equipment in investing cash flows. Cash used in connection with ERP design and development and information technology and supply chain redesign totaled \$51.1 million in 2017. Of this amount, \$34.4 million was recognized as expense and is reflected in our 2017 cash flows from operations, and \$16.7 million was capitalized and is included in 2017 purchases of property, plant and equipment in investing cash flows. Cash used in connection with ERP design and development and information technology and supply chain redesign totaled \$55.1 million in 2016. Of this amount, \$34.8 million was recognized as expense and is reflected in our 2016 cash flows from operations, and \$20.3 million was capitalized and is included in 2016 purchases of property, plant and equipment in investing cash flows.

Under purchase accounting rules, certain cash flows for businesses acquisitions are considered “purchase consideration”. In our statement of cash flows, cash paid for purchase consideration is classified as cash used in investing activities. However, there are a number of transactions related to business acquisitions that are expensed as incurred and that are included in operating cash flows when paid. Costs that are expensed in connection with business acquisitions include

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retention bonus expense and due diligence and consulting costs incurred in connection with the acquisitions. Business acquisition costs expensed in fiscal 2018 and fiscal 2016 totaled \$4.4 million and \$28.7 million, respectively. There were no significant net business acquisition costs expensed in 2017. In our statement of cash flows, the cash used in operations related to these expenses was generally reflected in the same period as these expenses. The expense amount for 2016 and the related operating cash outflow for 2016 reflected above includes amounts recognized related to payments to former owners of share-based payment awards for GATR. Prior to the acquisition, GATR made a number of share-based payment awards to its employees. Due to the structure of certain of these share-based payment awards, we were required to recognize compensation expense, rather than purchase consideration, for the portion of our purchase price that we paid to the seller that was distributed to the recipients of these awards. Consequently, upon completing the acquisition we recognized \$18.5 million of compensation expense related to this matter during fiscal 2016.

The changes in operating cash flows between 2016 and 2018 were also impacted by the terms of some of our largest customer contracts. Our contract terms with our customers can have a significant impact on our operating cash flows. Contract terms, including payment terms on our long-term development contracts, are customized for each contract based upon negotiations with the respective customer. For some large long-term development contracts, primarily with our international customers, we receive significant up-front cash payments from customers based upon the negotiated terms of these contracts. The customized payment terms on long-term development projects also often include payment milestones based upon such items as the delivery of components of systems, passing specific system design reviews with the customer, or other events defined by the contracts. These milestone payments can vary significantly based upon the negotiated terms of the contracts. Changes in the amount of unbilled accounts receivable are reflective of the difference between when costs are incurred and when we are entitled to receive milestone payments.

Investing activities from continuing operations used cash of \$47.1 million in 2018, \$43.7 million in 2017 and \$260.6 million in 2016. In 2018, cash used in investing activities from continuing operations included \$16.3 million in purchase consideration paid for acquisitions of businesses in our CMS segment, and capital expenditures of \$31.7 million, including \$7.5 million of capitalized ERP costs described above. In 2018, cash provided by investing activities from discontinued operations included \$133.8 million of cash received related to the sale of CGD Services.

Cash used in investing activities during fiscal 2017 included \$16.8 million in purchase consideration paid for acquisitions of businesses, and capital expenditures of \$36.9 million, including \$16.7 million of capitalized ERP costs described above. Cash used in investing activities in 2017 was partially offset by \$12.7 million of net proceeds from sales or maturities of marketable securities.

Cash used in investing activities during fiscal 2016 included \$243.5 million in purchase consideration paid for acquisitions of businesses, and capital expenditures of \$32.1 million, including the \$20.3 million of capitalized ERP costs described above. Cash used in investing activities in 2016 was partially offset by \$15.0 million net proceeds from sales or maturities of marketable securities.

Financing activities used cash of \$51.2 million and \$129.8 million in 2018 and 2017, respectively, and provided cash of \$233.1 million in 2016. Financing activities for fiscal year 2018 consisted primarily of net principal repayments of \$55.0 million on short-term borrowings. Restricted cash increased \$19.5 million in fiscal 2018 related to contractual requirements.

Operating and financing cash flows for 2018 were also significantly impacted by the inclusion of Boston AFC 2.0 OpCo. LLC (OpCo.) within Cubic's consolidated financial statements. In March 2018, CTS and John Laing, an unrelated company that specializes in contracting under P3, jointly formed Boston AFC 2.0 HoldCo. LLC (HoldCo.). Also, in March 2018, HoldCo. created a wholly owned entity, OpCo. which entered into a contract with the MBTA for the financing, development, and operation of a next-generation fare payment system in Boston (the MBTA Contract). HoldCo. is 90% owned by John Laing and 10% owned by CTS. Collectively, HoldCo. and OpCo. are referred to as the P3 Venture. Based on our assessment under ASC 810, we have concluded that OpCo. and HoldCo. are variable interest entities and that we are the primary beneficiary of OpCo. Consequently, we have consolidated the financial statements of OpCo. within Cubic's consolidated financial statements. As such, the cash flows of OpCo. are reflected in Cubic's Consolidated Statements of Cash Flows. We have concluded that we are not the primary beneficiary of HoldCo. and thus we have not consolidated the financial statements of HoldCo. within Cubic's consolidated financial statements.

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The MBTA Contract consists of a design and build phase of approximately 3 years and an operate and maintain period of approximately 10 years. The design and build phase is planned to be completed in 2021 and the operate and maintain phase will span from 2021 through 2031. MBTA will make estimated payments of \$664.0 million to OpCo. in connection with the MBTA Contract over the ten year operate and maintain phase. All of OpCo.'s contractual responsibilities regarding the design and development and the operation and maintenance of the fare system have been subcontracted to CTS by OpCo. CTS will receive estimated payments of \$510.0 million under its subcontract with OpCo. \$1.5 million of operating cash outflows of OpCo., incurred as part of the delivery of the design and build phase of the MBTA Contract, are included within the operating cash flow section of Cubic's 2018 Consolidated Statements of Cash Flows. During 2018 OpCo. paid \$20.8 million to CTS under the subcontract agreement; these amounts are eliminated in consolidation, and as such are not reflected in Cubic's 2018 Consolidated Statements of Cash Flows.

Upon creation of the P3 Venture, John Laing made a loan to HoldCo. of \$24.3 million in the form of a bridge loan that is intended to be converted to equity in the future in accordance with its equity funding responsibilities. Concurrently, HoldCo. made a corresponding equity contribution to OpCo. in the same amount which is included within equity of noncontrolling interest in Cubic's consolidated financial statements. OpCo.'s receipt of this equity contribution is included as a financing cash inflow within Cubic's 2018 Consolidated Statements of Cash Flows.

Upon creation of the P3 Venture, OpCo. entered into a credit agreement with a group of financial institutions (the OpCo. Credit Agreement) which includes a long-term debt facility and a revolving credit facility. Included in Cubic's 2018 Consolidated Statements of Cash Flows are \$13.2 million of financing cash inflows related to borrowings on the long-term debt facility and \$4.8 million of financing cash outflows related to payment of third party financing costs related to the establishment of the OpCo. Credit Agreement. No amounts had been borrowed on the revolving credit facility as of September 30, 2018. During 2018, financing fees paid to issuing banks, interest payments, and other bank fees related to the OpCo. Credit Agreement were not paid in cash, but were added to the outstanding principal balance of the long-term debt facility. As such, these amounts were not included in Cubic's 2018 Consolidated Statements of Cash Flows. OpCo. debt is non-recourse to Cubic.

Upon creation of the P3 Venture, OpCo. established a \$10.0 million restricted cash balance which is required by the MBTA Contract to allow for the delivery of future change orders and unplanned expansions as directed by MBTA.

Financing activities used cash of \$129.8 million in fiscal 2017. Financing activities for fiscal year 2017 consisted primarily of principal repayments of \$185.0 million on short-term borrowings using cash that was previously held on deposit in the U.K. as collateral in support of a letter of credit facility as further described below, and using other cash that was repatriated from the U.K. and Australia during 2017. In 2016, we borrowed a net of \$180.0 million on a short-term basis that, in addition to existing cash resources, was used to finance acquisitions. In fiscal 2016 we revised a note purchase agreement and issued \$75.0 million of unsecured notes bearing interest at 3.93%, maturing on March 12, 2026. Interest payments on these notes are due semi-annually and principal payments are due from 2020 through 2026.

In 2018, 2017 and 2016, respectively, we repurchased \$2.4 million, \$2.4 million and \$1.6 million of common stock in connection with our stock-based compensation plan. We made payments on long-term borrowings of \$0.9 million, and \$0.5 million in 2017 and 2016, respectively. Dividends paid to shareholders amounted to \$7.3 million (\$0.27 cents per share) in 2018, 2017 and 2016.

The change in exchange rates between foreign currencies and the U.S. dollar resulted in an decrease of \$1.8 million to our cash balance as of September 30, 2018 compared to September 30, 2017, an increase of \$10.6 million to our cash balance as of September 30, 2017 compared to September 30, 2016, and a decrease of \$38.5 million to our cash balance as of September 30, 2016 compared to September 30, 2015.

We have a committed revolving credit agreement with a group of financial institutions in the amount of \$400.0 million which expires in August 2021 (Revolving Credit Agreement). Debt issuance costs incurred in connection with establishment of and amendments to the Revolving Credit Agreement are recorded in other assets on our Consolidated Balance Sheets, and are being amortized as interest expense using the effective interest method over the stated term of the Revolving Credit Agreement. At September 30, 2018, our total debt issuance costs have an unamortized balance of

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\$1.9 million. The available line of credit is reduced by any letters of credit issued under the Revolving Credit Agreement. As of September 30, 2018, there were no borrowings under this agreement and there were letters of credit outstanding totaling \$29.0 million, which reduce the available line of credit to \$371.0 million. The \$29.0 million of letters of credit includes both financial letters of credit and performance guarantees.

Until June 2017, we had a secured letter of credit facility agreement with a bank in the U.K. At September 30, 2016, there were letters of credit outstanding under this agreement of \$62.7 million. Restricted cash at September 30, 2016 of \$69.4 million was held on deposit in the U.K. as collateral in support of this facility. In June 2017, this agreement was terminated and the associated letters of credit were transferred to the Revolving Credit Agreement described above. The cash that formerly collateralized the secured credit facility was used to make principal payments to reduce our outstanding short-term borrowings.

As of September 30, 2018, we had letters of credit and bank guarantees outstanding totaling \$41.8 million, which includes the \$29.0 million of letters of credit on the Revolving Credit Agreement above and \$12.8 million of letters of credit issued under other facilities. The total of \$41.8 million of letters of credit and bank guarantees includes \$33.5 million that guarantees either our performance or customer advances under certain contracts, and financial letters of credit of \$8.3 million which primarily guarantee our payment of certain self-insured liabilities. We have never had a drawing on a letter of credit instrument, nor are any anticipated; therefore, we estimate the fair value of these instruments to be zero.

Our Revolving Credit Agreement and note purchase and private shelf agreement each contain a number of customary covenants, including requirements for Cubic to maintain certain interest coverage and leverage ratios and restrictions on Cubic's and certain of its subsidiaries' abilities to, among other things, incur additional debt, create liens, consolidate or merge with any other entity, or transfer or sell substantially all of their assets, in each case subject to certain exceptions and limitations. These agreements also contain customary events of default, including, without limitation: (a) failure by Cubic to pay principal or interest on the Notes when due; (b) failure by Cubic or certain of its subsidiaries to comply with the covenants in the agreements; (c) failure of the representations and warranties made by Cubic or certain of its subsidiaries to be correct in any material respect; (d) cross-defaults with other indebtedness of Cubic or certain of its subsidiaries resulting in the acceleration of the maturity thereof; (e) certain bankruptcy and insolvency events with respect to Cubic or certain of its subsidiaries; (f) failure by Cubic or certain of its subsidiaries to satisfy certain final judgments when due; and (g) a change in control of Cubic, in each case subject to certain exceptions and limitations. The occurrence of any event of default under these agreements may result in all of the indebtedness then outstanding becoming immediately due and payable.

We maintain a cash account with a bank in the U.K. for which the funds are restricted as to use. The account is required to secure the customer's interest in cash deposited in the account to fund our activities related to our performance under a fare collection services contract in the United Kingdom. The balance in the account as of September 30, 2018 was \$17.4 million and is classified as restricted cash in our Consolidated Balance Sheets.

The accumulated deficit in other comprehensive loss decreased \$4.0 million in 2018 due to a decrease in the recorded liability for our pension plans. Unrealized translation adjustments totaled \$8.1 million but were partially offset by \$1.0 million of changes in the fair value of cash flow hedges.

Our financial condition remains strong with net working capital of \$339.8 million and a current ratio of 2.0 to 1 at September 30, 2018. We expect that cash on hand and our Revolving Credit Agreement will be adequate to meet our working capital requirements for the foreseeable future. Our total debt to capital ratio at September 30, 2018 was 28%. Our cash is invested primarily in highly liquid bank deposits and government instruments in the U.S., U.K., New Zealand and Australia.

As of September 30, 2018, \$113.9 million of the \$139.6 million of our cash and cash equivalents, including restricted cash, was held by our foreign subsidiaries, primarily in the U.K., New Zealand and Australia.

During fiscal year 2017, in order to maintain the required leverage ratio in our Revolving Credit Agreement and note purchase and private shelf agreements, we decided to access cash resources in our foreign subsidiaries to provide

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increased assurance of compliance with our loan covenants in the future. As a result, we are no longer able to assert that accumulated or current earnings in our foreign subsidiaries are indefinitely reinvested.

Prior to the Tax Act, we provided deferred taxes on all undistributed foreign earnings, as we did not consider these amounts permanently reinvested. Under the transition to a modified territorial tax system, all previously untaxed undistributed foreign earnings are subject to a transition tax charge at reduced rates and future repatriations of foreign earnings will generally be exempt from U.S. tax. We wrote off the existing U.S. deferred tax liability on undistributed foreign earnings with a corresponding increase to the valuation allowance during the first quarter of 2018. We will continue to monitor available evidence and our plans for foreign earnings and expect to continue to provide applicable deferred taxes based on the tax liability or withholding taxes that would be due upon repatriation of the undistributed foreign earnings.

The following is a schedule of our contractual obligations outstanding as of September 30, 2018:

	Total (in millions)	Less than 1 Year	1 - 3 years	4 - 5 years	After 5 years
Short-term borrowings	\$ —	\$ —	\$ —	\$ —	\$ —
Long-term debt	200.0	—	10.7	71.4	117.9
Interest payments	39.7	7.2	14.2	11.1	7.2
Operating leases	59.8	11.3	18.8	12.7	17.0
Deferred compensation	13.5	2.1	2.8	2.4	6.2
	\$ 313.0	\$ 20.6	\$ 46.5	\$ 97.6	\$ 148.3

As of September 30, 2018, we had approximately \$2.4 million of recorded liabilities and related interest and penalties pertaining to uncertain tax positions which are excluded from the table above. None of these liabilities and related interest and penalties is expected to be paid within one year. We are unable to make a reasonable estimate as to when cash settlement with the tax authorities might occur due to the uncertainties related to these tax matters. Payments of these obligations would result from settlements with taxing authorities. For more information on our uncertain tax positions, see Note 11 to the Consolidated Financial Statements in Item 8 of this Form 10-K. The table above also excludes estimated minimum funding requirements for retirement plans as set forth by statutory requirements. For further information about future minimum contributions for these plans, see Note 13 to the Consolidated Financial Statements in Item 8 of this Form 10-K.

The terms of the purchase agreements in certain of our recent business acquisitions provide that we will pay the sellers contingent consideration should the acquired companies meet specified goals. As of September 30, 2018, the maximum future contingent consideration that would be payable if all such goals were met is \$22.0 million. However,

we are unable to make a reasonable estimate as to the timing and magnitude of such future payments.

In late October 2018, we acquired all of the outstanding capital stock of Advanced Traffic Solutions Inc. (Trafficware), a provider of intelligent traffic solutions for the transportation industry based in Sugar Land, Texas, which provides a fully integrated suite of software, Internet of Things (IoT) devices, and hardware solutions that provide customers with enhanced mobility and safety. The purchase price is \$235.7 million adjusted for the difference between net working capital acquired and a targeted working capital amount, and was financed primarily with proceeds from draws on our line of credit. Under our financing agreements, Cubic exercised its option to increase maximum leverage to 4.0x that will be in effect until September 30, 2019. At October 31, 2018 the outstanding balance on our line of credit increased to \$265.0 million primarily due to the financing of the Trafficware acquisition.

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Backlog

	September 30, 2018 (in millions)	September 30, 2017
Total backlog		
Cubic Transportation Systems	\$ 3,544.9	\$ 2,043.9
Cubic Global Defense	442.6	420.3
Cubic Mission Solutions	77.0	72.3
Total	\$ 4,064.5	\$ 2,536.5

As reflected in the table above, total backlog increased \$1,528.0 million from September 30, 2017 to September 30, 2018. The increase in CTS backlog is due to a number of significant contact wins. In particular, in fiscal 2018, we were awarded a contract by the New York MTA to replace the MetroCard system with a New Fare Payment System; a contract by the MBTA to provide the CharlieCard system with a next-generation fare payment system; a contract by the Queensland Department of Transportation & Main Roads to provide a new fare system for the state of Queensland, Australia; and a contract by the San Francisco Bay Area's Metropolitan Transportation Commission to deliver next-generation fare payment technology and operational services to the Clipper smart card system serving the Bay Area.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements (as defined by the applicable regulations of the SEC) that are reasonably likely to have a current or future material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Recent Accounting Pronouncements

See "Recent Accounting Pronouncements" in Note 1 of the Consolidated Financial Statements in Item 8 of this Form 10-K, which are hereby incorporated by reference.

Critical Accounting Policies, Estimates and Judgments

Our financial statements are prepared in accordance with accounting principles that are generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. We continually evaluate our estimates and judgments, the most critical of which are those related to revenue recognition, income taxes, valuation of goodwill, purchased intangibles, accounting for business combinations, and pension costs. We base our estimates and judgments on historical experience and other factors that we believe to be reasonable under the circumstances. Materially different results can occur as circumstances change and additional information becomes known.

Besides the estimates identified above that are considered critical, we make many other accounting estimates in preparing our financial statements and related disclosures. All estimates, whether or not deemed critical, affect reported amounts of assets, liabilities, revenues and expenses, as well as disclosures of contingent assets and liabilities. These estimates and judgments are also based on historical experience and other factors that are believed to be reasonable under the circumstances. Materially different results can occur as circumstances change and additional information becomes known, even for estimates and judgments that are not deemed critical.

Revenue Recognition

We generate revenue from the sale of products such as mass transit fare collection systems, air and ground combat training systems, and secure communications products. We provide services such as operating and maintaining fare systems for mass transit customers and specialized military training exercises, including live, virtual, constructive, and

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game-based training, exercises and support for international customers. We classify sales as products or services in our Consolidated Statements of Operations based on the attributes of the underlying contracts.

A significant portion of our business is derived from long-term development, production and system integration contracts. We consider the nature of these contracts, and the types of products and services provided, when we determine the proper accounting for a particular contract. Many of our long-term fixed-price contracts require us to deliver quantities of products over a long period of time or to perform a substantial level of development effort in relation to the total value of the contract. For long-term fixed-price contracts requiring substantial development effort, we generally record revenue on a percentage-of-completion basis using the cost-to-cost method to measure progress toward completion. Under the cost-to-cost method of accounting, we recognize revenue based on a ratio of the costs incurred to the estimated total costs at completion. For certain other long-term, fixed-price production contracts not requiring substantial development effort we use the units-of-delivery percentage-of-completion method as the basis to measure progress toward completing the contract and recognizing sales. The units-of-delivery measure recognizes revenues as deliveries are made to the customer generally using unit sales values in accordance with the contract terms. We estimate profit as the difference between total estimated revenue and total estimated cost of a contract and recognize that profit over the life of the contract based on deliveries.

Generally, we recognize sales and profits earlier in a production cycle when we use the cost-to-cost method of percentage-of-completion accounting than when we use the units-of-delivery method. In addition, our profits and margins may vary materially depending on the types of long-term contracts undertaken, the costs incurred in their performance, the achievement of other performance objectives, and the stage of performance at which the right to receive fees, particularly under award and incentive fee contracts, is finally determined.

Incentive provisions that increase or decrease earnings based solely on a single significant event are generally not recognized until the event occurs. Those incentives and penalties are recorded when there is sufficient information for us to assess anticipated performance.

Accounting for long-term contracts requires judgment relative to assessing risks, estimating contract revenues and costs, and making assumptions for schedule and technical issues. Due to the scope and nature of the work required to be performed on many of our contracts, the estimation of total revenue and cost at completion is complicated and subject to many variables. Contract costs include material, labor and subcontracting costs, as well as an allocation of indirect costs. For contracts with the U.S. government, general and administrative costs are considered contract costs; however, for purposes of revenue measurement, general and administrative costs are not considered contract costs for any other customers. We have to make assumptions regarding labor productivity and availability, the complexity of the work to be performed, the availability of materials, estimated increases in wages and prices for materials, performance by our subcontractors, and the availability and timing of funding from our customer, among other variables. For contract change orders, claims, or similar items, we apply judgment in estimating the amounts and assessing the potential for realization. These amounts are only included in contract value when they can be reliably estimated and realization is considered probable. Based upon our history, we believe we have the ability to make reasonable estimates for these items. We have accounting policies and controls in place to address these, as well as other contractual and business arrangements to properly account for long-term contracts, and we continue to monitor

and improve such policies, controls, and arrangements. For other information on such policies, controls and arrangements, see our discussion in Item 9A of this Form 10-K.

Products and services provided under long-term, fixed-price contracts represented approximately 95% of our sales for 2018. Because of the significance of the judgments and estimation processes, it is likely that materially different amounts could be recorded if we used different assumptions or if our underlying circumstances were to change. For example, if underlying assumptions were to change such that our estimated profit rate at completion for all fixed-price contracts accounted for under the cost-to-cost percentage-of-completion method was higher or lower by one percentage point, our 2018 net earnings would have increased or decreased by approximately \$2.6 million. When adjustments in estimated contract revenues or estimated costs at completion are required, any changes from prior estimates are recognized by recording adjustments in the current period for the inception-to-date effect of the changes on current and prior periods using the cumulative catch-up method of accounting. When estimates of total costs to be incurred on a contract exceed

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total estimates of revenue to be earned, a provision for the entire loss on the contract is recorded in the period the loss is determined.

Changes in estimates on contracts for which revenue is recognized using the cost-to-cost percentage-of-completion method decreased operating income by approximately \$7.0 million, increased operating income by approximately \$5.7 million, and increased operating loss by approximately \$0.9 million in 2018, 2017, and 2016, respectively. These adjustments decreased net income from continuing operations attributable to Cubic by approximately \$5.1 million (\$0.19 per share), decreased net loss from continuing operations attributable to Cubic by approximately \$3.2 million (\$0.12 per share), and decreased net income from continuing operations attributable to Cubic by approximately \$0.5 million (\$0.02 per share) in 2018, 2017 and 2016, respectively.

We occasionally enter into contracts that include multiple deliverables such as the construction or upgrade of a system and subsequent services related to the delivered system. In recent years we have seen an increase in the number of customer requests for proposal that include this type of contractual arrangement. For these arrangements revenue is allocated at the inception of the contract to the different contract elements based on their relative selling price. The relative selling price for each deliverable is determined using vendor specific objective evidence (VSOE) of selling price or third-party evidence of selling price if VSOE does not exist. If neither VSOE nor third-party evidence of selling price exists for a deliverable, which is typically the case for our contracts, the guidance requires us to determine the best estimate of the selling price, which is the price at which we would sell the deliverable if it were sold on a standalone basis. In estimating the selling price of the deliverable on a standalone basis, we consider our overall pricing models and objectives, including the factors we contemplate in negotiating our contracts with our customers. The pricing models and objectives that we use are generally based upon a cost-plus margin approach, with the estimated margin based in part on qualitative factors such as perceived customer pricing sensitivity and competitive pressures. Once the contract value is allocated to the separate deliverables, revenue recognition guidance relevant to each contractual element is followed. For example, for the long-term construction portion of a contract we generally use the cost-to-cost percentage-of-completion method and for the services portion we generally recognize the service revenues on a straight-line basis over the contractual service period or based on measurable units of work performed or incentives earned. The judgment we apply in allocating the relative selling price to each deliverable can have a significant impact on the timing of recognizing revenues and operating income on a contract. The revenue recognized for each unit of accounting is classified as products or services sales in our Consolidated Statements of Operations based upon the predominant attributes of the unit of accounting. If product and service deliverables are combined for revenue recognition purposes, revenue recognized is allocated to products or services in our Consolidated Statements of Operations based upon a relative-selling-price method.

For certain of our multiple-element arrangements, the contract specifies that we will not be paid upon the delivery of certain units of accounting, but rather we will be paid when subsequent performance obligations are satisfied. Generally, in these cases the allocation of arrangement consideration to the up-front deliverables is limited, in some cases to zero, and revenue is reduced, in some cases to zero for the delivery of up-front units of accounting. In such situations, if the costs associated with the delivered item exceed the amount of allocable arrangement consideration, we defer the direct and incremental costs associated with the delivered item that are in excess of the allocated arrangement consideration as capitalized contract costs. We assess recoverability of these costs by comparing the recorded asset to the deferred revenue in excess of the transaction price allocated to the remaining deliverables in the arrangement. Capitalized contract costs are subsequently recognized in income in a manner that is consistent with

revenue recognition pattern for the arrangement as a whole. If no pattern of revenue recognition can be reasonably predicted for the arrangement, the capitalized costs are amortized on a straight-line basis.

We provide services under contracts including outsourcing-type arrangements and operations and maintenance contracts. Revenue under our service contracts with the U.S. government is recorded under the cost-to-cost percentage-of-completion method.

Revenue under contracts for services other than those with the U.S. government and those associated with long-term development projects is recognized either as services are performed or when a contractually required event has occurred, depending on the contract. These types of service contracts are entered into primarily by our CTS segment and to a lesser extent by our CGD segment. Revenue under such contracts is generally recognized on a straight-line basis over the

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period of contract performance, unless evidence suggests that the revenue is earned or the obligations are fulfilled in a different pattern. Costs incurred under these services contracts are expensed as incurred. Earnings related to services contracts may fluctuate from period to period, particularly in the earlier phases of the contract. Certain of our transportation systems service contracts contain service level or system usage incentives, for which we recognize revenues when the incentive award is fixed or determinable. These contract incentives are generally based upon monthly service levels or monthly performance and become fixed or determinable on a monthly basis.

Approximately 3% of our total sales are driven by pricing based on costs incurred to produce products or perform services under contracts with the U.S. government. Allowable costs on cost reimbursable contracts are determined under the Federal Acquisition Regulation (FAR). The FAR provides guidance on the types of costs that are allowable in establishing prices for goods and services under U.S. government contracts. For example, costs such as those related to charitable contributions, interest expense and certain advertising activities are unallowable and, therefore, not recoverable through sales. We closely monitor compliance with, and the consistent application of, our critical accounting policies related to contract accounting. Business segment personnel evaluate our contracts through periodic contract status and performance reviews. Corporate management and our internal auditors also monitor compliance with our revenue recognition policies and review contract status with segment personnel. Costs incurred and allocated to contracts are reviewed for compliance with U.S. government regulations by our personnel, and many of them are subject to audit by the Defense Contract Audit Agency. For other information on accounting policies we have in place for recognizing sales and profits, see our discussion under “Revenue Recognition” in Note 1 to the Consolidated Financial Statements.

Income Taxes

The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Tax law and rate changes are reflected in income in the period such changes are enacted. We record a valuation allowance to reduce deferred tax assets to the amount that is more likely than not to be realized pursuant to relevant accounting guidance. If sufficient positive evidence arises in the future, any existing valuation allowance could be reversed as appropriate, decreasing income tax expense in the period that such conclusion is reached. We include interest and penalties related to income taxes, including unrecognized tax benefits, within the income tax provision.

Our income tax returns are based on calculations and assumptions that are subject to examination by the Internal Revenue Service and other tax authorities. In addition, the calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon settlement. While we believe we have appropriate support for the positions taken on our tax returns, we regularly assess the potential outcomes of examinations by tax authorities in determining the adequacy of the provision for income taxes. We continually assess the likelihood and amount of potential adjustments and adjust the income tax provision, income taxes payable and deferred taxes in the

period in which the facts that give rise to a revision become known.

Prior to the Tax Act, we provided deferred taxes on all undistributed foreign earnings, as we did not consider these amounts permanently reinvested. Under the transition to a modified territorial tax system, all previously untaxed undistributed foreign earnings are subject to a transition tax charge at reduced rates and future repatriations of foreign earnings will generally be exempt from U.S. tax. We will continue to provide applicable deferred taxes based on the tax liability or withholding taxes that would be due upon repatriation of the undistributed foreign earnings. As of September 30, 2018, we have recorded a deferred tax liability of \$0.7 million related to future taxes on our unremitted foreign earnings.

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Purchased Intangibles

We generally fund acquisitions using a combination of cash on hand and with the proceeds of debt. Assets acquired and liabilities assumed in connection with an acquisition are recorded at their fair values determined by management as of the date of acquisition. The excess of the transaction consideration over the fair value of the net assets acquired is recorded as goodwill. We amortize intangible assets acquired as part of business combinations over their estimated useful lives unless their useful lives are determined to be indefinite. For certain business combinations, we utilize independent valuations to assist us in estimating the fair value of purchased intangibles. Our purchased intangibles primarily relate to contracts and programs acquired and customer relationships, which are amortized over periods of 15 years or less. The determination of the value and useful life of purchased intangibles is judgmental in nature and, therefore, the amount of annual amortization expense we record is affected by these judgments. For example, if the weighted average amortization period for our purchased intangibles was one year less than we have determined, our 2018 amortization expense would have increased by approximately \$3.2 million.

Valuation of Goodwill

Goodwill balances by reporting unit are as follows:

September 30,	2018	2017	2016
	(in millions)		
Cubic Transportation Systems	\$ 49.8	\$ 50.9	\$ 49.6
Cubic Global Defense	145.7	270.7	263.0
Cubic Mission Solutions	138.1	—	—
Total goodwill	\$ 333.6	\$ 321.6	\$ 312.6

Goodwill represents the purchase price paid in excess of the fair value of net tangible and intangible assets acquired. Goodwill is not amortized but is subject to an impairment test at a reporting unit level on an annual basis and when circumstances indicate that an impairment is more-likely-than-not. Such circumstances that might indicate an impairment is more-likely-than-not include a significant adverse change in the business climate for one of our reporting units or a decision to dispose of a reporting unit or a significant portion of a reporting unit. The test for goodwill impairment is a two-step process. The first step of the test is performed by comparing the fair value of each reporting unit to its carrying value, including recorded goodwill. If the carrying value of a reporting unit exceeds its fair value, the second step is performed to measure the amount of the impairment, if any, by comparing the implied fair value of goodwill to its carrying value. Any resulting impairment would be recorded in the current period.

Determining the fair value of a reporting unit for purposes of the goodwill impairment test or for changes in our operating structure is judgmental in nature and involves the use of estimates and assumptions. These estimates and

assumptions could have a significant impact on whether or not an impairment charge is recognized and also the magnitude of any such charge. Estimates of fair value are primarily determined using discounted cash flows and market multiples from publicly traded comparable companies. These approaches use significant estimates and assumptions including projected future cash flows, discount rate reflecting the inherent risk in future cash flows, perpetual growth rate and determination of appropriate market comparables.

We evaluate our reporting units when changes in our operating structure occur, and if necessary, reassign goodwill using a relative fair value allocation approach. As described in Note 17 to our Consolidated Financial Statements in Item 8 of this Form 10-K, beginning on October 1, 2017, we concluded that CMS became a separate operating segment. In conjunction with the changes to reporting units, we reassigned goodwill between CGD and CMS based on their relative fair values as of October 1, 2017. We estimated the fair value of CGD and CMS at October 1, 2017 based upon market multiples from publicly traded comparable companies in addition to discounted cash flows models for CMS and for a combination of CGD and CMS based on discrete financial forecasts developed by management for planning purposes. Cash flows beyond the discrete forecasts were estimated based on projected growth rates and financial ratios, influenced by an analysis of historical ratios and by calculating a terminal value at the end of the discrete financial forecasts. For the October 1, 2017 valuations, future cash flows were discounted to present value using a discount rate of 13% for our CMS reporting unit and 11% for the combination of our CGD and CMS reporting units.

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For the first step of our fiscal 2018 annual impairment test, we estimated the fair value of CTS based upon market multiples from publicly traded comparable companies and for CGD and CMS, we estimated the fair value based upon a combination of market multiples from publicly traded comparable companies and discounted cash flow models. The discounted cash flows were based on discrete three-year financial forecasts developed by management for planning purposes. Cash flows beyond the discrete forecasts were estimated based on projected growth rates and financial ratios, influenced by an analysis of historical ratios and by calculating a terminal value at the end of the three-year forecasts. The future cash flows were discounted to present value using a discount rate of 10% for CGD and 14% for CMS. The results of our 2018 annual impairment test indicated that the estimated fair value for our CTS reporting unit exceeded its carrying value by over 100%, while the estimated fair value of our CGD and CMS reporting units both exceeded their carrying values by over 40%.

Unforeseen negative changes in future business or other market conditions for any of our reporting units including margin compression or loss of business, could cause recorded goodwill to be impaired in the future. Also, changes in estimates and assumptions we make in conducting our goodwill assessment could affect the estimated fair value of our reporting units and could result in a goodwill impairment charge in a future period.

Pension Costs

The measurement of our pension obligations and costs is dependent on a variety of assumptions used in our valuations. These assumptions include estimates of the present value of projected future pension payments to plan participants, taking into consideration the likelihood of potential future events such as salary increases and demographic experience. These assumptions may have an effect on the amount and timing of future contributions.

The assumptions used in developing the required estimates include the following key factors:

- Discount rates
- Inflation
- Salary growth
- Expected return on plan assets
- Retirement rates
- Mortality rates

The discount rate represents the interest rate that is used to determine the present value of future cash flows currently expected to be required to settle pension obligations. We base the discount rate assumption on investment yields available at year-end on high quality corporate long-term bonds. Our inflation assumption is based on an evaluation of external market indicators. The salary growth assumptions reflect our long-term actual experience in relation to the

inflation assumption. The expected return on plan assets reflects asset allocations, our historical experience, our investment strategy and the views of investment managers and large pension sponsors. Mortality rates are based on published mortality tables. Retirement rates are based primarily on actual plan experience. The effects of actual results differing from our assumptions are accumulated and amortized over future periods and, therefore, generally affect our recognized expense in such future periods.

Changes in the above assumptions can affect our financial statements, although the relatively small size of our defined benefit pension plans limits the impact any individual assumption changes would have on earnings. For example, if the assumed rate of return on pension assets was 25 basis points higher or lower than we have assumed, our 2018 net earnings would have increased or decreased by approximately \$0.5 million, assuming all other assumptions were held constant.

Holding all other assumptions constant, an increase or decrease of 25 basis points in the discount rate assumption for 2018 would increase or decrease net earnings for 2019 by approximately \$0.5 million, and would have decreased or increased the amount of the benefit obligation recorded at September 30, 2018, by approximately \$8.6 million.

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Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

We invest in money market instruments and short-term marketable debt securities whose return is tied to short-term interest rates being offered at the time the investment is made. We maintain short-term borrowing arrangements in the U.S. and U.K. which are also tied to short-term rates (the U.S. dollar LIBOR rate and the Bank of England Base Rate). We also have senior unsecured notes payable to insurance companies which have fixed coupon interest rates. See Note 9 to the Consolidated Financial Statements for more information.

Interest income earned on our short-term investments is affected by changes in the general level of interest rates in the U.S., the U.K., Australia and New Zealand. These income streams are generally not hedged. Interest expense incurred under the short-term borrowing arrangements is affected by changes in the general level of interest rates in the U.S. and U.K. The expense related to these cost streams is usually not hedged since it is either payable within three months and/or immediately callable by the lender at any time. Interest expense incurred under the long-term notes payable is not affected by changes in any interest rate because it is fixed. We believe that we are not significantly exposed to interest rate risk at this point in time.

Foreign Currency Exchange Risk

In the ordinary course of business, we enter into firm sale and purchase commitments denominated in many foreign currencies. We have a policy to hedge those commitments greater than an equivalent value of \$50,000 by using foreign currency exchange forward and option contracts that are denominated in currencies other than the functional currency of the subsidiary responsible for the commitment, typically the British pound, Canadian dollar, Singapore dollar, Euro, New Zealand dollar and Australian dollar. These contracts are designed to be effective hedges regardless of the direction or magnitude of any foreign currency exchange rate change, because they result in an equal and opposite income or cost stream that offsets the change in the value of the underlying commitment. See Note 1 to the Consolidated Financial Statements for more information on our foreign currency translation and transaction accounting policies.

Investments in our foreign subsidiaries in the U.K., Australia, New Zealand and Canada are not hedged. We generally have control over the timing and amount of earnings repatriation, if any, and expect to use this control to mitigate foreign currency exchange risk.

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Item 8.FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

CUBIC CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS

(amounts in thousands, except per share data)

	Years Ended September 30,		
	2018	2017	2016
Net sales:			
Products	\$ 704,941	\$ 681,559	\$ 661,904
Services	497,957	426,150	408,697
	1,202,898	1,107,709	1,070,601
Costs and expenses:			
Products	472,698	473,670	473,444
Services	362,694	305,653	293,033
Selling, general and administrative expenses	258,644	240,601	253,163
Research and development	52,398	52,652	31,976
Amortization of purchased intangibles	27,064	30,245	29,356
Restructuring costs	5,018	2,260	1,278
	1,178,516	1,105,081	1,082,250
Operating income (loss)	24,382	2,628	(11,649)
Other income (expenses):			
Interest and dividend income	1,615	953	1,416
Interest expense	(10,424)	(15,027)	(11,199)
Pension settlement loss	—	—	(2,671)
Other income (expense), net	(687)	364	(2,334)
Income (loss) from continuing operations before income taxes	14,886	(11,082)	(26,437)
Income tax (benefit) provision	7,093	14,658	(14,357)
Net income (loss) from continuing operations	7,793	(25,740)	(12,080)
Net income from discontinued operations	4,243	14,531	13,815
Net income (loss)	12,036	(11,209)	1,735
Less noncontrolling interest in loss of VIE	(274)	—	—
Net income (loss) attributable to Cubic	\$ 12,310	\$ (11,209)	\$ 1,735

Amounts attributable to Cubic:

Net income (loss) from continuing operations	8,067	(25,740)	(12,080)
Net income from discontinued operations	4,243	14,531	13,815
Net income (loss) attributable to Cubic	\$ 12,310	\$ (11,209)	\$ 1,735

Net income (loss) per share:

Basic

Continuing operations attributable to Cubic	\$ 0.30	\$ (0.95)	\$ (0.45)
Discontinued operations	\$ 0.16	\$ 0.54	\$ 0.51
Basic earnings per share attributable to Cubic	\$ 0.45	\$ (0.41)	\$ 0.06

Diluted

Continuing operations attributable to Cubic	\$ 0.29	\$ (0.95)	\$ (0.45)
Discontinued operations	\$ 0.16	\$ 0.54	\$ 0.51
Diluted earnings per share attributable to Cubic	\$ 0.45	\$ (0.41)	\$ 0.06

Weighted average shares used in per share calculations:

Basic	27,229	27,106	26,976
Diluted	27,351	27,106	26,976

See accompanying notes.

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CUBIC CORPORATION

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(in thousands)

	Years Ended September 30,		
	2018	2017	2016
Net income (loss)	\$ 12,036	\$ (11,209)	\$ 1,735
Other comprehensive income (loss):			
Adjustment to pension liability, net of tax	5,540	13,180	(19,584)
Foreign currency translation	(8,126)	1,440	(47,872)
Change in unrealized gains/losses from cash flow hedges:			
Change in fair value of cash flow hedges, net of tax	34	(1,071)	464
Adjustment for net gains/losses realized and included in net income, net of tax	929	(358)	(989)
Total change in unrealized gains/losses realized from cash flow hedges, net of tax	963	(1,429)	(525)
Total other comprehensive income (loss)	(1,623)	13,191	(67,981)
Total comprehensive income (loss)	10,413	1,982	(66,246)
Noncontrolling interest in comprehensive loss of consolidated VIE, net of tax	(274)	—	—
Comprehensive income (loss) attributable to Cubic, net of tax	\$ 10,687	\$ 1,982	\$ (66,246)

See accompanying notes.

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CUBIC CORPORATION

CONSOLIDATED BALANCE SHEETS

(in thousands)

	September 30, 2018	September 30, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 111,834	\$ 60,143
Cash in consolidated VIE	374	—
Restricted cash	17,400	8,434
Restricted cash in consolidated VIE	10,000	—
Accounts receivable:		
Long-term contracts	393,691	354,476
Allowance for doubtful accounts	(1,324)	(436)
	392,367	354,040
Recoverable income taxes	91	5,360
Inventories	84,199	87,715
Assets held for sale	8,177	—
Other current assets	43,705	29,951
Current assets of discontinued operations	—	75,900
Total current assets	668,147	621,543
Long-term contract receivables	6,134	17,457
Long-term capitalized contract costs	84,924	56,471
Long-term capitalized contract costs in consolidated VIE	1,258	—
Property, plant and equipment, net	117,546	113,220
Deferred income taxes	4,713	7,385
Goodwill	333,626	321,562
Purchased intangibles, net	73,533	89,858
Other assets	14,192	10,515
Other noncurrent assets in consolidated VIE	810	—
Noncurrent assets of discontinued operations	—	98,274

Total assets	\$ 1,304,883	\$ 1,336,285
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See accompanying notes.

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CUBIC CORPORATION

CONSOLIDATED BALANCE SHEETS—continued

(in thousands)

	September 30, 2018	September 30, 2017
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Short-term borrowings	\$ —	\$ 55,000
Trade accounts payable	125,414	88,521
Trade accounts payable in consolidated VIE	165	—
Customer advances	75,941	56,132
Accrued compensation	65,277	79,577
Other current liabilities	52,956	50,549
Income taxes payable	8,586	9,838
Current liabilities of discontinued operations	—	36,862
Total current liabilities	328,339	376,479
Long-term debt	199,793	199,761
Long-term debt in consolidated VIE	9,056	—
Accrued pension liability	7,802	25,375
Deferred compensation	11,476	11,435
Income taxes payable	2,406	7,465
Deferred income taxes	2,689	10,407
Other noncurrent liabilities	19,113	15,732
Other noncurrent liabilities in consolidated VIE	13	—
Commitments and contingencies		
Shareholders' equity:		
Preferred stock, no par value:		
Authorized--5,000 shares		
Issued and outstanding--none	—	—
Common stock, no par value:		
Authorized--50,000 shares		
36,201 issued and 27,255 outstanding at September 30, 2018		
36,072 issued and 27,127 outstanding at September 30, 2017	45,008	37,850
Retained earnings	801,834	794,485

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Accumulated other comprehensive loss	(110,643)	(106,626)
Treasury stock at cost - 8,945 shares	(36,078)	(36,078)
Shareholders' equity related to Cubic	700,121	689,631
Noncontrolling interest in VIE	24,075	—
Total shareholders' equity	724,196	689,631
Total liabilities and shareholders' equity	\$ 1,304,883	\$ 1,336,285

See accompanying notes.

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CUBIC CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Years Ended September 30,		
	2018	2017	2016
Operating Activities:			
Net income (loss)	\$ 12,036	\$ (11,209)	\$ 1,735
Net income from discontinued operations	(4,243)	(14,531)	(13,815)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	46,600	48,045	40,323
Share-based compensation expense	7,515	5,012	7,748
Change in fair value of contingent consideration	1,029	(3,878)	1,274
(Gain) loss on disposal of assets	(1,474)	405	—
Deferred income taxes	(6,860)	(917)	(27,709)
Net pension cost (benefit)	(2,770)	(1,046)	1,102
Excess tax benefits from equity incentive plans	—	(35)	3
Changes in operating assets and liabilities, net of effects from acquisitions:			
Accounts receivable	(34,762)	(45,443)	(184)
Inventories	3,023	(18,867)	(62)
Prepaid expenses and other current assets	(15,455)	7,286	4,494
Long-term capitalized contract costs	(29,552)	8,911	7,635
Accounts payable and other current liabilities	30,423	13,389	25,613
Customer advances	21,566	7,383	(24,908)
Income taxes	(361)	8,240	(5,519)
Other items, net	(18,126)	(5,756)	6,294
NET CASH PROVIDED BY (USED IN) CONTINUING OPERATING ACTIVITIES	8,589	(3,011)	24,024
NET CASH PROVIDED BY OPERATING ACTIVITIES FROM DISCONTINUED OPERATIONS	10,376	27,747	20,578
NET CASH PROVIDED BY OPERATING ACTIVITIES	18,965	24,736	44,602
Investing Activities:			
Acquisition of businesses, net of cash acquired	(16,322)	(16,830)	(243,459)
Purchases of marketable securities	—	(19,121)	(28,470)
Proceeds from sales or maturities of marketable securities	—	31,868	43,456
Purchases of property, plant and equipment	(31,696)	(36,916)	(32,093)
Purchase of non-marketable debt and equity securities	(1,500)	(2,700)	—
Proceeds from the sale of assets	2,400	—	—

NET CASH USED IN INVESTING ACTIVITIES FROM CONTINUING OPERATIONS	(47,118)	(43,699)	(260,566)
NET CASH PROVIDED BY INVESTING ACTIVITIES FROM DISCONTINUED OPERATIONS	133,795	1,217	—
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES	86,677	(42,482)	(260,566)
Financing Activities:			
Proceeds from short-term borrowings	269,770	130,780	288,900
Principal payments on short-term borrowings	(324,770)	(315,780)	(108,900)
Proceeds from long-term borrowings	—	—	75,000
Principal payments on long-term debt	—	(978)	(494)
Proceeds from long-term borrowings in consolidated VIE	13,196	—	—
Deferred financing fees in consolidated VIE	(4,778)	—	—
Deferred financing fees	—	—	(3,647)
Proceeds from stock issued under employee stock purchase plan	1,517	2,234	—

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Purchase of common stock	(2,449)	(2,444)	(1,563)
Dividends paid	(7,355)	(7,341)	(7,285)
Excess tax benefits from equity incentive plans	—	35	(3)
Contingent consideration payments related to acquisitions of businesses	(1,156)	(2,625)	(2,479)
Equity contribution from Boston VIE partner	24,349	—	—
Net change in restricted cash	(19,509)	66,293	(6,403)
NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES	(51,185)	(129,826)	233,126
Effect of exchange rates on cash	(2,392)	10,588	(38,511)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	52,065	(136,984)	(21,349)
Cash and cash equivalents at the beginning of the period	60,143	197,127	218,476
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD	\$ 112,208	\$ 60,143	\$ 197,127
Supplemental disclosure of non-cash investing and financing activities:			
Liability incurred to acquire Shield Aviation, net	\$ 6,248	\$ —	\$ —
Liability incurred to acquire Deltenna, net	\$ —	\$ 1,327	\$ —
Liability incurred to acquire Vocality, net	\$ —	\$ 271	\$ —
Liability incurred to acquire GATR, net	\$ —	\$ —	\$ 6,788
Liability incurred to acquire TeraLogics, net	\$ —	\$ —	\$ 4,998
Liability incurred to acquire H4 Global, net	\$ —	\$ —	\$ 952

See accompanying notes.

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CUBIC CORPORATION

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

(in thousands except per share amounts)	Common Stock	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock	Noncontrolling Interest in VIE	Number of Shares Outstanding
October 1, 2015	\$ 25,560	\$ 818,642	\$ (51,836)	\$ (36,078)	\$ —	26,883
Net income	—	1,735	—	—	—	—
Other comprehensive loss, net of tax	—	—	(67,981)	—	—	—
Stock issued under equity incentive plans	—	(57)	—	—	—	152
Purchase of common stock	(1,563)	—	—	—	—	(43)
Stock-based compensation	8,762	—	—	—	—	—
Tax expense from equity incentive plans	(3)	—	—	—	—	—
Cash dividends paid -- \$.27 per share of common stock	—	(7,285)	—	—	—	—
September 30, 2016	32,756	813,035	(119,817)	(36,078)	—	26,992
Net loss	—	(11,209)	—	—	—	—
Other comprehensive income, net of tax	—	—	13,191	—	—	—
Stock issued under equity incentive plans	—	—	—	—	—	158
Stock issued under employee stock purchase plan	2,234	—	—	—	—	32
Purchase of common stock	(2,444)	—	—	—	—	(55)

Stock-based compensation	5,269	—	—	—	—	—
Tax expense from equity incentive plans	35	—	—	—	—	—
Cash dividends paid -- \$.27 per share of common stock	—	(7,341)	—	—	—	—
September 30, 2017	37,850	794,485	(106,626)	(36,078)	—	27,127
Net income (loss)	—	12,310	—	—	(274)	—
Other comprehensive loss, net of tax	—	—	(1,623)	—	—	—
Stock issued under equity incentive plans	—	—	—	—	—	158
Stock issued under employee stock purchase plan	1,517	—	—	—	—	26
Purchase of common stock	(2,449)	—	—	—	—	(56)
Stock-based compensation	8,090	—	—	—	—	—
Equity contribution of noncontrolling interest	—	—	—	—	24,349	—
Cumulative effect of accounting standard adoption	—	2,394	(2,394)	—	—	—
Cash dividends paid -- \$.27 per share of common stock	—	(7,355)	—	—	—	—
September 30, 2018	\$ 45,008	\$ 801,834	\$ (110,643)	\$ (36,078)	\$ 24,075	27,255

See accompanying notes.

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CUBIC CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

September 30, 2018

NOTE 1—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization and Nature of the Business: We design, develop and manufacture products which are mainly electronic in nature such as mass transit fare collection systems, air and ground combat training systems, and networked Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) products and systems. We provide services such as the operation and maintenance of fare systems for mass transit customers.

Through September 30, 2017 our principal lines of business were transportation fare collection systems and services, defense systems, and defense services. On April 18, 2018, we entered into a stock purchase agreement with Nova Global Supply & Services, LLC (Purchaser), an entity affiliated with GC Valiant, LP, under which we agreed to sell our Cubic Global Defense Services (CGD Services) business to Purchaser. The sale closed on May 31, 2018. As a result of the sale, the operating results and cash flows of CGD Services have been classified as discontinued operations in the Consolidated Statements of Operations and Consolidated Statements of Cash Flows for all periods presented and the assets and liabilities of CGD Services have been classified as assets and liabilities of discontinued operations in the Consolidated Balance Sheets for all periods presented. In addition, we concluded that Cubic Mission Solutions (CMS), which was formerly a part of our Cubic Global Defense Systems (CGD) operating segment, became a separate operating segment and reportable segment beginning on October 1, 2017. Applicable prior period amounts have been adjusted retrospectively to reflect the reportable segment change for all periods presented.

Refer to “Note 2 – Acquisitions and Divestitures” for additional information about the sale of CGD Services and the related discontinued operation classification and “Note 17 – Business Segment Information” for additional information on the separate disclosure of operating and reportable segment information for CMS.

Our transportation fare collection systems and services are sold primarily to large local government agencies worldwide. Our principal customers for defense products and services are the U.S. and foreign governments.

Principles of Consolidation: The consolidated financial statements include the accounts of Cubic Corporation, subsidiaries we control, and variable interest entities (VIE's) for which Cubic is the primary beneficiary. All significant intercompany balances and transactions have been eliminated in consolidation.

Foreign Currency Transactions and Translation: Our reporting currency is the U.S. dollar. Assets and liabilities of foreign subsidiaries are translated at the spot rate in effect at the applicable reporting date, and our Consolidated Statements of Operations are translated at the average exchange rates in effect during the applicable periods. The resulting unrealized cumulative translation adjustments are recorded as a component of other comprehensive income (loss) in our Consolidated Statements of Comprehensive Income (Loss). Cash flows from our operations in foreign countries are translated at the average rate for the applicable period. The effect of exchange rates on cash balances held in foreign currencies are separately reported in our Consolidated Statements of Cash Flows.

Transactions denominated in currencies other than our own subsidiaries' functional currencies are recorded based on exchange rates at the time such transactions arise. Changes in exchange rates with respect to amounts recorded in our Consolidated Balance Sheets related to such transactions result in transaction gains and losses that are reflected in our Consolidated Statements of Operations as a component of other income (expense). Total transaction gains and losses, which are related primarily to advances to foreign subsidiaries and advances between foreign subsidiaries amounted to a loss of \$2.2 million in 2018, a gain of \$0.7 million in 2017, and a loss of \$0.9 million in 2016.

Use of Estimates: The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates include the estimated total costs at completion of our long-term contracts, estimated loss contingencies, estimated self-insurance liabilities, estimated discounted future cash flows of our reporting units used for goodwill impairment testing and estimated future cash flows for our long-lived asset

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impairment testing, estimated discounted cash flows used for valuation of intangible assets and contingent consideration in business combinations, and estimated rates of return and discount rates related to our defined benefit pension plans. Actual results could differ from our estimates.

Cash Equivalents: We consider highly liquid investments with maturity of three months or less when purchased to be cash equivalents.

Restricted Cash: Restricted cash represents cash that is restricted as to usage for legal or contractual reasons. Restricted cash is classified either as current or noncurrent, depending upon the date of the lapse of the respective restriction.

Accounts Receivable: Receivables consist primarily of amounts due from U.S. and foreign governments for defense products and services and local government agencies for transportation systems. Due to the nature of our customers, we generally do not require collateral. We have limited exposure to credit risk as we have historically collected substantially all of our receivables from government agencies. We generally require no allowance for doubtful accounts for these customers.

Inventories: We state our inventories at the lower of cost or market. We determine cost using the first-in, first-out (FIFO) method, which approximates current replacement cost. We value our work in process at the actual production and engineering costs incurred to date, including applicable overhead. For contracts with the U.S. government our work in process also includes general and administrative costs. Any inventoried costs in excess of estimated realizable value are immediately charged to cost of sales. We include qualifying contract costs allocable to units-of-delivery contracts as inventory. We receive performance-based payments and progress payments associated with certain of these contracts based on the billing terms in the underlying contracts. Pursuant to contract provisions, agencies of the U.S. government and certain other customers have title to, or security interest in, inventories related to such contracts as a result of advances, performance-based payments, and progress payments. Contract advances, performance-based payments and progress payments received are recorded as an offset against the related inventory balances for contracts that use the units-of-delivery method to recognize revenue. This determination is performed on a contract by contract basis. Any amount of payments received in excess of the cumulative amount of accounts receivable and inventoried costs for a contract is classified as customer advances, which is a liability on the balance sheet.

Long-term capitalized contract costs: Long-term capitalized contract costs include costs incurred on contracts to develop and manufacture transportation systems for customers for which revenue recognition does not begin until the customers begin operating the systems. Once operation of the systems commence, the capitalized costs are recognized in cost of sales based upon the ratio of revenue recorded during a period compared to the revenue expected to be recognized over the term of the contracts.

Property, Plant and Equipment: We carry property, plant and equipment at cost. We provide depreciation in amounts sufficient to amortize the cost of the depreciable assets over their estimated useful lives. Generally, we use straight-line methods for depreciable real property over estimated useful lives or the term of the underlying lease, if shorter than the estimated useful lives, for leasehold improvements. We use accelerated methods (declining balance and sum-of-the-years-digits) for machinery and equipment over their estimated useful lives.

Certain costs incurred in the development of internal-use software and software applications, including external direct costs of materials and services and applicable compensation costs of employees devoted to specific software development, are capitalized as computer software costs. Costs incurred outside of the application development stage are expensed as incurred. The amounts capitalized are included in property, plant and equipment and are amortized on a straight-line basis over the estimated useful life of the software, which ranges from three to seven years. No amortization expense is recorded until the software is ready for its intended use.

Goodwill and Purchased Intangibles: We evaluate goodwill for potential impairment annually as of July 1, or when circumstances indicate that the carrying value may not be recoverable. The test is performed by comparing the fair value of each of our reporting units, which are consistent with our operating segments, to its carrying value, including recorded goodwill. If the carrying value exceeds the fair value, we measure impairment by comparing the implied fair value of goodwill to its carrying value, and any impairment determined would be recorded in the current period. Our purchased intangible assets are subject to amortization. In cases that we determine that a pattern in which the intangible asset will

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be consumed can be reliably determined we use an amortization method that best matches that expected pattern. If we believe that such a pattern cannot be reliably determined, we use a straight-line method of amortization.

Impairment of Long-Lived Assets: We generally evaluate the carrying values of long-lived assets other than goodwill for impairment only if events or changes in facts and circumstances indicate that carrying values may not be recoverable. If we determined there was any impairment, we would measure it by comparing the fair value of the related asset to its carrying value and record the difference in the current period. Fair value is generally determined by identifying estimated discounted cash flows to be generated by those assets. We have not recorded any impairment of long-lived assets for the years ended September 30, 2018, 2017 or 2016.

Recognizing assets acquired and liabilities assumed in a business combination: Acquired assets and assumed liabilities are recognized in a business combination on the basis of their fair values at the date of acquisition. We assess fair value, which is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, using a variety of methods including income approaches such as present value techniques or cost approaches such as the estimation of current selling prices and replacement values. Fair value of the assets acquired and liabilities assumed, including intangible assets and contingent payments, are measured based on the assumptions and estimations with regards to the variable factors such as the amount and timing of future cash flows for the asset or liability being measured, appropriate risk-adjusted discount rates, nonperformance risk, or other factors that market participants would consider. Upon acquisition, we determine the estimated economic lives of the acquired intangible assets for amortization purposes, which are based on the underlying expected cash flows of such assets. Adjustments to inventory are based on the fair market value of inventory and amortized into income based on the period in which the underlying inventory is sold. Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Actual results may vary from projected results and assumptions used in the fair value assessments.

Customer Advances: We receive advances, performance-based payments and progress payments from customers that may exceed revenues recognized to date on certain contracts, including contracts with agencies of the U.S. government. We classify such advances, other than those reflected as a reduction of receivables or inventories, as current liabilities.

Contingencies: We establish reserves for loss contingencies when, in the opinion of management, the likelihood of liability is probable and the extent of such liability is reasonably estimable. Estimates, by their nature, are based on judgment and currently available information and involve a variety of factors, including the type and nature of the litigation, claim or proceeding, the progress of the matter, the advice of legal counsel, our defenses and our experience in similar cases or proceedings as well as our assessment of matters, including settlements, involving other defendants in similar or related cases or proceedings. We may increase or decrease our legal reserves in the future, on a matter-by-matter basis, to account for developments in such matters.

Derivative Financial Instruments: All derivatives are recorded at fair value, however, the classification of gains and losses resulting from changes in the fair values of derivatives are dependent on the intended use of the derivative and its resulting designation. If a derivative is designated as a fair value hedge, then a change in the fair value of the derivative is offset against the change in the fair value of the underlying hedged item and only the ineffective portion of the hedge, if any, is recognized in cost of sales. If a derivative is designated as a cash flow hedge, then the effective portion of a change in the fair value of the derivative is recognized as a component of accumulated other comprehensive income (loss) until the underlying hedged item is recognized in cost of sales, or the forecasted transaction is no longer probable of occurring. If a derivative does not qualify as a highly effective hedge, a change in fair value is immediately recognized in earnings. We formally document hedging relationships for all derivative hedges and the underlying hedged items, as well as the risk management objectives and strategies for undertaking the hedge transactions.

Defined Benefit Pension Plans: Some of our employees are covered by defined benefit pension plans. The net periodic cost of our plans is determined using several actuarial assumptions, the most significant of which are the discount rate and the long-term rate of return on plan assets. We recognize on a plan-by-plan basis the funded status of our defined benefit pension plans as either an asset or liability on our balance sheets, with a corresponding adjustment to accumulated other comprehensive income (loss), net of tax, in shareholders' equity. The funded status is measured as the difference between the fair value of the plan assets and the benefit obligation of the plan.

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Comprehensive Income (Loss): Other comprehensive income (loss), which is comprised of unrealized gains and losses on foreign currency translation adjustments, unrealized gains and losses on cash flow hedges, net of tax, unrealized gains and losses on available-for-sale securities, net of tax and pension liability adjustments, net of tax is included in our Consolidated Statement of Comprehensive Income (Loss) as other comprehensive income (loss).

Revenue Recognition: We generate revenue from the sale of products such as mass transit fare collection systems, air and ground combat training systems, and products with C4ISR capabilities. We also generate revenue from services we provide such as the operation and maintenance of fare systems for mass transit customers and support specialized military training exercises mainly for international customers. We classify sales as products or services in our Consolidated Statements of Operations based on the attributes of the underlying contracts.

We recognize sales and profits under our long-term fixed-price contracts which require a significant amount of development effort in relation to total contract value using the cost-to-cost percentage-of-completion method of accounting. We record sales and profits based on the ratio of contract costs incurred to estimated total contract costs at completion. Contract costs include material, labor and subcontracting costs, as well as an allocation of indirect costs. For contracts with the U.S. federal government, general and administrative costs are included in contract costs; however, for purposes of revenue measurement, general and administrative costs are not considered contract costs for any other customers. Costs are recognized as incurred for contracts accounted for under the cost-to-cost percentage-of-completion method.

For certain other long-term, fixed price production contracts not requiring substantial development effort we use the units-of-delivery percentage-of-completion method as the basis to measure progress toward completing the contract and recognizing sales. The units-of-delivery measure recognizes revenues as deliveries are made to the customer generally using unit sales values in accordance with the contract terms. Costs of sales are recorded as deliveries are made. We estimate profit as the difference between total estimated revenue and total estimated cost of a contract and recognize that profit over the life of the contract based on deliveries.

For long-term fixed price contracts, we only include amounts representing contract change orders, claims or other items in the contract value when they can be reliably estimated and we consider realization probable. Changes in estimates of sales, costs and profits are recognized using the cumulative catch-up method of accounting. This method recognizes in the current period the cumulative effect of the changes on current and prior periods. A significant change in one or more of these estimates could have a material effect on our consolidated financial position or results of operations.

We record sales under cost-reimbursement-type contracts as we incur the costs. The Federal Acquisition Regulations provide guidance on the types of costs that we will be reimbursed in establishing the contract price. We consider incentives or penalties and awards applicable to performance on contracts in estimating sales and profits, and record

them when there is sufficient information to assess anticipated contract performance. We do not recognize incentive provisions that increase or decrease earnings based solely on a single significant event until the event occurs.

We occasionally enter into contracts that include multiple deliverables such as the construction or upgrade of a system and subsequent services to operate and maintain the delivered system. For such contracts, arrangement consideration is allocated at the inception of the arrangement to all deliverables using the relative-selling-price method. Under the relative-selling-price method, the selling price for each deliverable is determined using vendor specific objective evidence (VSOE) of selling price or third-party evidence of selling price if VSOE does not exist. If neither VSOE nor third-party evidence of selling price exists for a deliverable, which is typically the case for our contracts, the guidance requires us to determine the best estimate of the selling price, which is the price at which we would sell the deliverable if it were sold on a standalone basis. In estimating the selling price of the deliverable on a standalone basis, we consider our overall pricing models and objectives, including the factors we contemplate in negotiating our contracts with our customers. The pricing models and objectives that we use are generally based upon a cost-plus margin approach, with the estimated margin based in part on qualitative factors such as perceived customer pricing sensitivity and competitive pressures.

Once the contract value is allocated to the separate deliverables under a multiple-element arrangement, revenue recognition guidance relevant to each contractual element is followed. For example, for the long-term construction

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portion of a contract we generally use the percentage-of completion method and for the services portion we generally recognize the service revenues on a straight-line basis over the contractual service period or based on measurable units of work performed or incentives earned.

For certain of our multiple-element arrangements, the contract specifies that we will not be paid upon the delivery of certain units of accounting, but rather we will be paid when subsequent performance obligations are satisfied. Generally, in these cases the allocation of arrangement consideration to the up-front deliverables is limited, in some cases to zero, and revenue is reduced, in some cases to zero for the delivery of up-front units of accounting. In such situations, if the costs associated with the delivered item exceed the amount of allocable arrangement consideration, we defer the direct and incremental costs associated with the delivered item that are in excess of the allocated arrangement consideration as capitalized contract costs. We assess recoverability of these costs by comparing the recorded asset to the deferred revenue in excess of the transaction price allocated to the remaining deliverables in the arrangement. Capitalized contract costs are subsequently recognized in income in a manner that is consistent with the revenue recognition pattern for the arrangement as a whole. If no pattern of revenue recognition can be reasonably predicted for the arrangement, the capitalized costs are amortized on a straight-line basis.

Revenue under our service contracts with the U.S. government is recorded under the cost-to cost percentage-of-completion method.

Revenue under contracts for services other than those with the U.S. government and those associated with design, development, or production activities is recognized either as services are performed or when a contractually required event has occurred, depending on the contract. For non-U.S. government service contracts that contain measurable units of work performed we recognize sales when the units of work are completed. Certain of our transportation systems service contracts contain service level or system usage incentives, for which we recognize revenues when the incentive award is fixed or determinable. These contract incentives are generally based upon monthly service levels or monthly performance and become fixed or determinable on a monthly basis. Revenue under non-U.S. government service contracts that do not contain measurable units of work performed, which is generally the case for our service contracts, is recognized on a straight-line basis over the contractual service period, unless evidence suggests that the revenue is earned, or obligations fulfilled, in a different manner. Costs incurred under these services contracts are expensed as incurred.

We make provisions in the current period to fully recognize any anticipated losses on contracts, other than non-U.S. government service contracts. If we receive cash on a contract prior to revenue recognition, and for contracts that are accounted for on a units-of-delivery method, that is in excess of inventoried costs, we classify it as a customer advance on the balance sheet.

In addition, we are subject to audit of incurred costs related to many of our U.S. government contracts. These audits could produce different results than we have estimated for revenue recognized on our cost-based contracts with the U.S. government; however, our experience has been that our costs are acceptable to the government.

Research and Development (R&D): We record the cost of company-sponsored R&D activities as the expenses are incurred. The cost of engineering and product development activities incurred in connection with the performance of work on our contracts is included in cost of sales as they are directly related to contract performance.

Stock-Based Compensation: Restricted stock units (RSUs) are granted to eligible employees and directors and represent rights to receive shares of common stock at a future date if vesting occurs. RSUs granted to date have either time-based vesting or performance-based vesting. Compensation expense for all RSUs is measured at fair value at the grant date and recognized based upon the number of RSUs that ultimately vest. We determine the fair value of RSUs based on the closing market price of our common stock on the grant date. The grant date of the performance-based RSUs takes place when the grant is authorized and the specific achievement goals are communicated.

Compensation expense for time-based vesting awards is recorded on a straight-line basis over the requisite service period, adjusted by estimated forfeiture rates. Vesting of performance-based RSUs is tied to achievement of specific company goals over the measurement period, which is generally a three-year period from the date of the grant. For purposes of measuring compensation expense for performance-based RSUs, at each reporting date we estimate the

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number of shares for which vesting is deemed probable based on management's expectations regarding achievement of the relevant performance criteria, adjusted by estimated forfeiture rates. Compensation expense for the number of shares ultimately expected to vest is recognized on a straight-line basis over the requisite service period for the performance-based RSUs. The recognition of compensation expense associated with performance-based RSUs requires judgment in assessing the probability of meeting the performance goals. For performance-based RSUs, there may be significant expense recognition or reversal of recognized expense in periods in which there are changes in the assessed probability of meeting performance-based vesting criteria.

Income Taxes: Our provision for income taxes includes federal, state, local and foreign income taxes. We provide deferred income taxes on temporary differences between assets and liabilities for financial reporting and tax purposes as measured by enacted tax rates we expect to apply when the temporary differences are settled or realized. Tax law and rate changes are reflected in income in the period such changes are enacted. We establish valuation allowances for deferred tax assets when the amount of future taxable income we expect is not likely to support the realization of the temporary differences. After the enactment of the Tax Cuts and Jobs Act of 2017 (Tax Act), we have provided for deferred taxes on unremitted earnings, as applicable. We include interest and penalties related to income taxes, including unrecognized tax benefits, within the income tax provision. Accounting Standards Codification (ASC) 740-20 requires total income tax expense or benefit to be allocated among continuing operations, discontinued operations, extraordinary items, other comprehensive income and items charged directly to shareholders' equity.

Net Income (Loss) Per Share: Basic net income (loss) per share (EPS) is computed by dividing the net income (loss) for the period by the weighted average number of common shares outstanding during the period, including vested RSUs.

In periods with a net income from continuing operations, diluted EPS is computed by dividing the net income for the period by the weighted average number of common and common equivalent shares outstanding during the period. Common equivalent shares consist of dilutive RSUs. Dilutive RSUs are calculated based on the average share price for each fiscal period using the treasury stock method. For RSUs with performance-based vesting, no common equivalent shares are included in the computation of diluted EPS until the related performance criteria have been met. In periods with a net loss from continuing operations, common equivalent shares are not included in the computation of diluted EPS, because to do so would be anti-dilutive.

The weighted-average number of shares outstanding used to compute net income (loss) per common share were as follows (in thousands):

	Year Ended September 30,		
	2018	2017	2016
Weighted average shares - basic	27,229	27,106	26,976

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Effect of dilutive securities	122	—	—
Weighted average shares - diluted	27,351	27,106	26,976
Number of anti-dilutive securities	—	967	825

Recent Accounting Pronouncements:

Recently Adopted Accounting Pronouncements

On December 22, 2017, the U.S. government enacted the Tax Act. Also in December 2017, the Securities and Exchange Commission (SEC) staff issued Staff Accounting Bulletin 118, which was codified in March 2018 under Accounting Standards Update (ASU) 2018-05, which provides guidance on accounting for the tax effects of the Tax Act for which the accounting under Accounting Standards Codification (ASC) 740 is incomplete. A reporting entity must act in good faith and update provisional amounts as soon as more information becomes available, evaluated and prepared, during a measurement period that cannot exceed one year from the enactment date. Initial reasonable estimates and subsequent changes to provisional amounts must be reported in income tax expense or benefit from continuing

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operations in the period in which they are determined. As of September 30, 2018, we continue to consider the accounting for the transition tax on deferred foreign earnings to be provisional due to estimates of foreign earnings and profits for the year ended September 30, 2018. Accordingly, the impact of the Tax Act may be subject to adjustment in the first quarter of fiscal 2019. However, as described below, we have made a reasonable estimate of the effects on our existing deferred tax balances and the one-time transition tax. We will conclude the accounting for the enactment-date effects within the remaining prescribed SAB 118 measurement period.

In February 2018, the FASB issued ASU 2018-02, Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which helps organizations reclassify certain stranded income tax effects in accumulated other comprehensive income resulting from the Tax Act enacted on December 22, 2017. ASU No. 2018-02 allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from tax reform. We adopted ASU 2018-02 in the fourth quarter of fiscal 2018. As a result of the adoption, we reclassified \$2.4 million from accumulated other comprehensive loss into retained earnings.

Recent Accounting Pronouncements – Not Yet Adopted

In May 2014, the Financial Accounting Standards Board (FASB) issued ASU 2014-09, Revenue from Contracts with Customers (commonly referred to as ASC 606). ASC 606 outlines a comprehensive revenue recognition model and supersedes most current revenue recognition guidance. The new guidance will require revenue to be recognized when promised goods or services are transferred to customers in amounts that reflect the consideration to which the company expects to be entitled in exchange for those goods or services. Adoption of the new rules will affect the timing of revenue recognition for many of our sales transactions. We will adopt ASC 606 using the “modified retrospective” method of adoption, meaning the cumulative effect of applying ASC 606 will be recognized as an adjustment to the opening retained earnings balance as of October 1, 2018.

A task force within management is leading our implementation efforts and we have engaged outside advisors to assist. We have evaluated the impact of the adoption of the new standard on our active contracts across all our business segments, developed processes and tools to dual report financial results under both current GAAP and ASC 606, and assessed the impact to our internal control structure. Under ASC 606, revenue is recognized as control transfers to the customer. As such, revenue for our fixed-price development and production contracts will generally be recognized over time as costs are incurred, which is consistent with the revenue recognition model we currently use for the majority of these contracts. For certain of our fixed-price production contracts where we currently recognize revenue as units are delivered, in most cases the accounting for those contracts will change under ASC 606 such that we will recognize revenue as costs are incurred. This change will generally result in an acceleration of revenue as compared with our current revenue recognition method for those contracts. For certain of our multiple-element transportation contracts, we are currently required to defer the recognition of revenue, and in many circumstances the related costs, during the design and build phase, as the collection of some or all customer payments attributable to the design and build revenue occurs during the subsequent operate and maintain phase. Under ASC 606, deferral of such revenue and costs is not required. As a result, this change will also result in an acceleration of revenue as compared to our current revenue recognition for these contracts. Additionally, the deferred customer-payment feature of these

contracts will require identification of an embedded financing component under ASC 606 which will result in the recognition of financing income for amounts which would have otherwise been recognized as revenue under the legacy standard.

Based on contracts in process at September 30, 2018, we will record a net change to retained earnings calculated as the difference between acceleration of sales and the related cost of sales that results from the adoption of ASC 606. The determination of the adjustment to retained earnings and the calculation of the acceleration of sales and cost of sales at September 30, 2018 are not yet completed as we are currently finalizing our assessment of new contracts executed prior to September 30, 2018 and implementing ASC 606 for newly acquired businesses. The adjustment to retained earnings is expected to primarily relate to multiple element transportation contracts that previously required the deferral of revenue and costs during the design and build phase, as the collection of some or all customer payments attributable to design and build revenue occurs during the subsequent operate and maintain phase. Under ASC 606, deferral of such revenue and costs is not required. In addition, an adjustment to retained earnings is expected due to contracts previously accounted for

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under the units-of-delivery method, which are now recognized under ASC 606 earlier in the performance period as costs are incurred, as opposed to when the units are delivered under the legacy standard.

We will make certain presentation changes on our Consolidated Balance Sheets to comply with ASC 606. The component of accounts receivable which currently relates to unbilled accounts receivable will be presented separately as contract assets. Advance payments and deferred revenue, previously primarily classified in customer advances, will be combined and presented as contract liabilities. The adoption of ASC 606 will result in an increase in unbilled accounts receivables (referred to as contract assets under ASC 606) primarily from converting contracts previously applying the units-of-delivery method to the cost-to-cost method with a corresponding reduction in inventoried contract costs. Additionally, the adoption of ASC 606 will result in an increase in unbilled accounts receivables from converting multiple element transportation contracts that previously deferred all revenue and costs during the design and build phase, with a corresponding reduction in long term capitalized contract costs.

Additionally, we have updated our accounting policies affected by ASC 606, redesigned our internal controls over financial reporting related to the standard, and determined the extent of the expanded disclosure requirements. We have substantially completed the evaluation of the impact of the accounting and disclosure changes on our business processes, controls and systems and have implemented the necessary changes to such business processes, controls and systems.

In January 2016, the FASB issued ASU 2016-01, Financial Instruments – Overall (Subtopic 825-10) which requires equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income, requires entities to use the exit price notion when measuring the fair value of financial instruments for disclosure purposes, requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset, and eliminates the requirement for entities to disclose the methods and significant assumptions used to estimate the fair value that is currently required to be disclosed for financial instruments measured at amortized cost. ASU 2016-01 will be effective for us beginning October 1, 2018 and is not expected to have any significant impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases. Under the new guidance, lessees will be required to recognize the following for all leases (with the exception of short-term leases) at the commencement date: (a) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (b) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. The ASU will be effective for us beginning October 1, 2019 with early adoption permitted. ASU 2016-02 will be adopted on a modified retrospective transition basis for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. We are currently evaluating the impact of the application of this accounting standard update on our consolidated financial statements as well as whether to adopt the new guidance early.

In August 2016, the FASB issued ASU 2016-15, Classification of Certain Cash Receipts and Cash Payments, which provides clarifying guidance on how entities should classify cash receipts and cash payments from specific types of transactions on the statement of cash flows. The guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flows. ASU 2016-15 is effective for us beginning October 1, 2018 and is not expected to have any significant impact on our consolidated financial statements.

In October 2016, the FASB issued ASU 2016-16, Intra-Entity Transfers of Assets Other Than Inventory, which requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. ASU 2016-16 is effective for us beginning October 1, 2018 and is not expected to have any significant impact on our consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18, Restricted Cash, which requires amounts generally described as restricted cash and restricted cash equivalents be included with cash and cash equivalents when reconciling the total beginning and ending amounts for the periods shown on the statement of cash flows. Adoption of ASU 2016-18 is required for us in our fiscal year beginning October 1, 2018. Beginning October 1, 2018 application of this accounting

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standard update will not impact financial results, but will result in a retrospective change in the presentation of restricted cash, including the inclusion of \$27.4 million and \$8.4 million of restricted cash on hand at September 30, 2018 and September 30, 2017, respectively, within the beginning and ending amounts of cash and cash equivalents in our Statements of Cash Flows. In addition, upon adoption of this standard, changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents will be reflected in our Statements of Cash Flows.

In January 2017, the FASB issued ASU 2017-01, Business Combinations (Topic 805) Clarifying the Definition of a Business. This ASU clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill, and consolidation. The guidance requires an entity to evaluate if substantially all of the fair value of the gross assets transferred is concentrated in a single identifiable asset or a group of similar identifiable assets; if so, the set of transferred assets and activities is not a business. Adoption of ASU 2017-01 is required for us beginning October 1, 2018 and is not expected to have any significant impact on our consolidated financial statements. However, adoption of ASU 2017-01 could impact the accounting for future acquisitions or disposals of assets and activities because the accounting for a business combination differs significantly from that of an asset acquisition.

In January 2017, the FASB issued ASU 2017-04, Simplifying the Test for Goodwill Impairment. This standard removes the second step of the goodwill impairment test, where a determination of the fair value of individual assets and liabilities of a reporting unit was needed to measure the goodwill impairment. Under this updated standard, goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The guidance will be effective for us in our fiscal year beginning October 1, 2020 with early adoption permitted. Adoption of ASU 2017-04 will have no immediate impact on our financial statements and would only have the potential to impact the amount of any goodwill impairment recorded after the adoption of the ASU. We are currently evaluating whether to adopt the guidance early.

In March 2017, the FASB issued ASU 2017-07, Compensation – Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. The update requires employers to present the service cost component of the net periodic benefit cost in the same income statement line item as other employee compensation costs arising from services rendered during the period. The other components of net benefit cost, including interest cost, expected return on plan assets, amortization of prior service cost/credit and actuarial gain/loss, and settlement and curtailment effects, are to be presented outside of any subtotal of operating income. Employers will have to disclose the line(s) used to present the other components of net periodic benefit cost, if the components are not presented separately in the income statement. Adoption of ASU 2017-07 will be required for us beginning October 1, 2018 and is not expected to have any significant impact on our consolidated financial statements.

In August 2017, the FASB has issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities, which aims to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. The amendments in this ASU are intended to better align an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. To satisfy that objective, the amendments expand and refine hedge accounting

for both non-financial and financial risk components, and align the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. Additionally, the amendments (1) permit hedge accounting for risk components in hedging relationships involving non-financial risk and interest rate risk; (2) change the guidance for designating fair value hedges of interest rate risk and for measuring the change in fair value of the hedged item in fair value hedges of interest rate risk; (3) continue to allow an entity to exclude option premiums and forward points from the assessment of hedge effectiveness; and (4) permit an entity to exclude the portion of the change in fair value of a currency swap that is attributable to a cross-currency basis spread from the assessment of hedge effectiveness. The amendments in this ASU are effective for us in our annual period beginning October 1, 2019 and interim periods within that year, with early adoption permitted. We are currently evaluating the impact of the application of this accounting standard update on our consolidated financial statements as well as whether to adopt the new guidance early.

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement - Disclosure Framework (Topic 820). The updated guidance modifies the disclosure requirements on fair value measurements. The amendments in this accounting

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standard update are effective for us in our annual period beginning October 1, 2020 and interim periods within that annual period. Early adoption is permitted for any removed or modified disclosures. We are currently evaluating the impact of the application of this accounting standard update on our consolidated financial statements as well as whether to adopt the new guidance early.

In August 2018, the FASB issued ASU 2018-14, Defined Benefit Plan - Disclosure Framework (Topic 715), which modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement benefit plans. The guidance removes disclosures that are no longer considered cost beneficial, clarifies the specific requirements of disclosures and adds disclosure requirements identified as relevant. The amendments in this accounting standard update are effective for us in our annual period beginning October 1, 2020. Early adoption is permitted. We are currently evaluating the impact of the application of this accounting standard update on our consolidated financial statements as well as whether to adopt the new guidance early.

NOTE 2—ACQUISITIONS AND DIVESTITURES

Sale of CGD Services

On April 18, 2018, we entered into a stock purchase agreement with Purchaser, an entity affiliated with GC Valiant, LP, under which we agreed to sell our CGD Services business to the Purchaser. The sale closed on May 31, 2018. In accordance with the terms of the stock purchase agreement, the Purchaser agreed to pay us \$135.0 million in cash upon the closing of the transaction, adjusted for the estimated working capital of CGD Services at the date of the sale compared to a working capital target. In addition to the upfront cash payment, we are eligible to receive an additional cash payment of \$3.0 million based on the achievement of pre-determined earn-out conditions related to the award of certain government contracts. In the third quarter of fiscal 2018, we received \$133.8 million in connection with the sale and at September 30, 2018, we have recorded a receivable from the Purchaser of \$3.7 million for the estimated amount due related to the working capital settlement. The working capital settlement has not yet been settled with the Purchaser. No amount has been recorded as a receivable related to the potential achievement of earn-out conditions based upon our probability assessment of the achievement of the required conditions.

We concluded that the sale of the CGD Services business met all of the required conditions for discontinued operations presentation in the second quarter of fiscal 2018. As such, the CGD Services business financial results are reported within discontinued operations in our consolidated financial statements. The operating results and cash flows of CGD Services have been classified as discontinued operations in the Consolidated Statements of Income (Loss) and the Consolidated Statements of Cash Flows for all periods presented and the assets and liabilities of CGD Services have been classified as assets and liabilities of discontinued operations in the Consolidated Balance Sheet at September 30, 2017.

In 2018, we recognized a \$6.1 million loss within discontinued operations, which was calculated as the excess of the carrying value of the net assets of CGD Services less the sales price in the stock purchase agreement of \$135.0 million less selling costs of \$4.5 million.

The operations and cash flows of CGD Services are reflected in our consolidated Statements of Income and Consolidated Statements of Cash Flows as discontinued operations through May 31, 2018, the date of the sale. Income from discontinued operations, net of taxes, is comprised of the following for the years ended September 30, 2018, 2017 and 2016 (in thousands):

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	Years Ended September 30,		
	2018	2017	2016
Net sales	\$ 262,228	\$ 378,152	\$ 391,064
Costs and expenses:			
Cost of sales	235,279	342,819	350,429
Selling, general and administrative expenses	11,365	17,487	16,430
Amortization of purchased intangibles	1,373	2,752	4,764
Restructuring costs	7	208	574
Other income	(15)	(46)	(93)
Earnings from discontinued operations before income taxes	14,219	14,932	18,960
Net loss on sale	6,131	—	—
Income tax provision	3,845	401	5,145
Net income from discontinued operations	\$ 4,243	\$ 14,531	\$ 13,815

The carrying amounts of CGD Services assets and liabilities that were classified as assets and liabilities of discontinued operations are as follows (in thousands):

	September 30, 2018	September 30, 2017
Accounts receivable, net	\$ —	\$ 74,710
Other current assets	—	1,190
Property and equipment, net	—	466
Goodwill	—	94,350
Purchased intangibles, net	—	8,637
Other noncurrent assets	—	(5,179)
Total assets	—	174,174
Accounts payable and other liabilities	—	36,862
Net assets	\$ —	\$ 137,312

Business Acquisitions

Each of the following acquisitions has been treated as a business combination for accounting purposes. The results of operations of each acquired business has been included in our consolidated financial statements since the respective date of each acquisition.

Shield Aviation, Inc.

In July 2018, we acquired the assets of Shield Aviation (Shield), based in San Diego, California, a provider of autonomous aircraft systems (AAS) for intelligence, surveillance and reconnaissance (ISR) services. The addition of Shield expands our C4ISR portfolio for our CMS segment and will provide our customers with a rapidly deployable, medium AAS that offers unique mission enabling capabilities. We already provide the data link as well as the command and control link for the Shield AAS.

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Shield's sales and results of operations included in our operating results for the years ended September 30, 2018, 2017 and 2016 were as follows (in millions):

	September 30,		
	2018	2017	2016
Sales	\$ —	\$ —	\$ —
Operating loss	(0.8)	—	—
Net loss after taxes	(0.6)	—	—

Shield's operating results above included the following amounts for the years ended September 30, 2018, 2017 and 2016 (in millions):

	September 30,		
	2018	2017	2016
Amortization	\$ 0.1	\$ —	\$ —
Acquisition-related expenses	0.2	—	—

The acquisition-date fair value of consideration is \$12.8 million, which is comprised of estimated fair value of contingent consideration of \$5.6 million, extinguishment of secured loans and warrants due from Shield of \$5.2 million, cash paid of \$1.3 million, plus additional consideration to be paid in the future of \$0.7 million. Under the purchase agreement, we will pay the sellers up to \$10.0 million of contingent consideration if Shield meets certain sales goals from the date of acquisition through July 31, 2025. The contingent consideration liability will be re-measured to fair value at each reporting date until the contingencies are resolved and any subsequent changes in fair value are recognized in earnings.

The acquisition of Shield was paid for with funds from existing cash resources. The following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Technology	\$ 6.0
Other net assets acquired	0.3
Net identifiable assets acquired	6.3
Goodwill	6.5
Net assets acquired	\$ 12.8

The estimated fair values of assets acquired and liabilities assumed, including purchased intangibles as well as the estimated fair value of contingent consideration are preliminary estimates pending the finalization of our valuation analyses. The estimated fair values of purchased intangibles were determined using the valuation methodology deemed to be the most appropriate for each type of asset being valued. The technology asset valuation used the excess earnings approach.

The intangible assets are being amortized using straight-line methods based on the expected period of cash flows that will be generated by the assets, over an average useful life of eight years from the date of acquisition.

The goodwill resulting from the acquisition consists primarily of the synergies expected from combining the operations of Shield with our existing CMS business, and strengthening our capability of developing and integrating products and services in our CMS portfolio. The goodwill also includes the value of the assembled workforce that became our employees following the close of the acquisition. The amount recorded as goodwill is allocated to our CMS segment and is expected to be deductible for tax purposes.

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The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of Shield for fiscal years 2019 through 2023 and thereafter is as follows (in millions):

Year Ended	
September 30,	
2019	\$ 0.8
2020	0.8
2021	0.8
2022	0.8
2023	0.8
Thereafter	1.9

MotionDSP

In October 2017 we paid cash of \$4.7 million to purchase 49% of the outstanding capital stock of MotionDSP, a private artificial intelligence software company based in Burlingame, California, which specializes in real-time video enhancement and computer vision analytics. On February 21, 2018, we paid net cash of \$4.8 million to purchase the remaining outstanding capital stock of MotionDSP. The addition of MotionDSP enhances the capabilities in real-time video processing of our CMS business and expands our customer base in the public safety and other adjacent markets.

MotionDSP's sales and results of operations included in our operating results for the years ended September 30, 2018, 2017 and 2016 were as follows (in millions):

	September 30,		
	2018	2017	2016
Sales	\$ 0.6	\$ —	\$ —
Operating loss	(2.7)	—	—
Net loss after taxes	(1.9)	—	—

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MotionDSP's operating results above included the following amounts for the years ended September 30, 2018, 2017 and 2016 (in millions):

	September 30,		
	2018	2017	2016
Amortization	\$ 0.4	\$ —	\$ —
Acquisition-related expenses	0.8	0.2	—

The acquisition of MotionDSP was paid for with funds from existing cash resources. The following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Customer relationships	\$ 0.2
Technology	4.5
Trade name	0.1
Accounts payable and accrued expenses	(0.3)
Other noncurrent liabilities	(0.8)
Other net liabilities assumed	(0.9)
Net identifiable assets acquired	2.8
Goodwill	6.7
Net assets acquired	\$ 9.5

The fair values of purchased intangibles were determined using the valuation methodology deemed to be the most appropriate for each type of asset being valued. The trade name valuation used the relief from royalty method, the customer relationships valuation used the with-and-without valuation method, and the technology valuation used the excess earnings method.

The intangible assets are being amortized using straight-line methods based on the expected cash flows from the assets, over a useful life of seven years from the date of acquisition.

The goodwill resulting from the acquisition was deemed to consist primarily of the synergies expected from combining the operations of MotionDSP with our CMS operating segment, enhancing our capabilities in real-time video processing and computer vision analytics of our CMS portfolio, as well as the value of the assembled workforce that became our employees following the close of the acquisition. The amount recorded as goodwill in connection with the acquisition of MotionDSP is not expected to be deductible for tax purposes.

The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of MotionDSP for fiscal years 2019 through 2023 and thereafter is as follows (in millions):

Year Ended September 30,	
2019	\$ 0.7
2020	0.7
2021	0.7
2022	0.7
2023	0.7
Thereafter	0.9

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Deltenna

In July 2017, we acquired all of the outstanding capital stock of Deltenna Ltd (Deltenna), a wireless infrastructure company specializing in the design and delivery of radio and antenna communication solutions. Deltenna designs and manufactures cutting-edge integrated wireless products including compact LTE base stations, broadband range extenders for areas of poor coverage and rugged antennas. The addition of Deltenna, headquartered in Chippenham, U.K., will enhance tactical communication and training capabilities of our CGD businesses by effectively delivering high-capacity data networks within challenging and rigorous environments.

Deltenna's sales and results of operations included in our operating results for the years ended September 30, 2018, 2017 and 2016 were as follows (in millions):

	September 30,		
	2018	2017	2016
Sales	\$ 0.3	\$ 0.1	\$ —
Operating income (loss)	0.2	(0.2)	—
Net income (loss) after taxes	0.2	(0.2)	—

Deltenna's operating results above included the following amounts for the years ended September 30, 2018, 2017 and 2016 (in millions):

	September 30,		
	2018	2017	2016
Amortization	\$ 0.3	\$ —	\$ —
Gains from changes in fair value of contingent consideration	(0.3)	—	—
Acquisition-related expenses	—	0.2	—

The estimated acquisition-date fair value of consideration is \$5.3 million, which is comprised of cash paid of \$4.0 million plus the estimated fair value of contingent consideration of \$1.3 million. Under the purchase agreement, we will pay the sellers up to \$7.0 million of contingent consideration if Deltenna meets certain sales goals from the date of acquisition through the year ending September 30, 2022. The contingent consideration liability will be re-measured

to fair value at each reporting date until the contingencies are resolved and any changes in fair value are recognized in earnings.

The acquisition of Deltenna was paid for with funds from existing cash resources. The following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Customer relationships	\$ 1.0
Technology	1.1
Other net assets acquired (liabilities assumed)	(0.3)
Net identifiable assets acquired	1.8
Goodwill	3.5
Net assets acquired	\$ 5.3

The fair values of purchased intangibles were determined using the valuation methodology determined to be the most appropriate for each type of asset being valued. The customer relationships valuations used the excess earnings approach and the technology asset valuations used the relief from royalty approach.

The intangible assets are being amortized using straight-line methods based on the expected period of cash flows from the assets, over a useful life of eight years from the date of acquisition.

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At the time of the acquisition, the goodwill resulting from the acquisition was deemed to consist primarily of the synergies expected from combining the operations of Deltenna with our legacy CGD operating segment, and strengthening our capability of developing and integrating products in our defense portfolio, as well as the value of the assembled workforce that became our employees following the close of the acquisition. The amount recorded as goodwill was assigned to our legacy CGD segment. As described in Note 17, we concluded that CMS became a separate operating segment beginning on October 1, 2017 distinct from our legacy CGD operating segment. In conjunction with the changes to reporting units, on October 1, 2017 we reassigned goodwill between CGD and CMS based on their relative fair values. The amount recorded as goodwill in connection with the acquisition of Deltenna is not expected to be deductible for tax purposes.

The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of Deltenna for fiscal years 2019 through 2023 and thereafter is as follows (in millions):

Year Ended	
September 30,	
2019	\$ 0.3
2020	0.3
2021	0.3
2022	0.3
2023	0.3
Thereafter	0.3

Vocality

In November 2016, we acquired all of the outstanding capital stock of Vocality International (Vocality), based in Shackleford, U.K., a provider of embedded technology which unifies communications platforms, enhances voice quality, increases video performance and optimizes data throughput. Vocality contributes to our C4ISR portfolio of products for our CMS segment and expands our defense customer base. Vocality also sells its technology in the broadcast, oil and gas and maritime markets.

Vocality's sales and results of operations included in our operating results for the years ended September 30, 2018, 2017 and 2016 were as follows (in millions):

September 30,

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	2018	2017	2016
Sales	\$ 5.1	\$ 1.5	\$ —
Operating loss	(1.3)	(2.9)	—
Net loss after taxes	(1.2)	(2.6)	—

Vocality's operating results above included the following amounts for the years ended September 30, 2018, 2017 and 2016 (in millions):

	September 30,		
	2018	2017	2016
Amortization	\$ 0.8	\$ 0.6	\$ —
Acquisition-related expenses	0.6	1.6	—

Prior to our acquisition of Vocality, Vocality had a number of share-based payment awards in place to its employees. Due to the structure of some of these share-based payment awards and the acceleration of vesting of certain of these awards in connection with our acquisition of Vocality, we were required to recognize compensation expense, rather than purchase consideration, for the portion of our purchase price that we paid to the seller that was distributed to the recipients of these awards. Consequently, we recognized \$0.4 million of compensation expense within general and

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administrative expenses during the year ended September 30, 2017 related to this matter. This compensation is reflected in Vocality's acquisition-related expenses and results of operations above for fiscal year 2017.

The acquisition date fair value of consideration is \$9.6 million, which is comprised of cash paid of \$9.7 million plus additional held back consideration to be paid in the future estimated at \$0.3 million, less the \$0.4 million of cash paid to the seller recorded as compensation expense described above.

The acquisition of Vocality was paid for with funds from existing cash resources. The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Customer relationships	\$ 2.1
Technology	2.4
Trade name	0.4
Inventory	1.7
Accounts payable and accrued expenses	(0.4)
Other net assets acquired (liabilities assumed)	(0.5)
Net identifiable assets acquired	5.7
Goodwill	3.9
Net assets acquired	\$ 9.6

The fair values of purchased intangibles were determined using the valuation methodology deemed to be the most appropriate for each type of asset being valued. The customer relationships valuation used the excess earnings approach, and the technology and trade name asset valuations used the relief from royalty approach.

The intangible assets are being amortized using a combination of straight-line and accelerated methods based on the expected cash flows from the assets, over a useful life of nine years from the date of acquisition.

At the time of the acquisition, the goodwill resulting from the acquisition was deemed to consist primarily of the synergies expected from combining the operations of Vocality with our legacy CGD operating segment, and strengthening our capability of developing and integrating products in our defense portfolio, as well as the value of the assembled workforce that became our employees following the close of the acquisition. The amount recorded as goodwill was assigned to our legacy CGD segment. As described in Note 17, we concluded that CMS became a separate operating segment beginning on October 1, 2017 distinct from our legacy CGD operating segment. In conjunction with the changes to reporting units, on October 1, 2017 we reassigned goodwill between CGD and CMS based on their relative fair values. The amount recorded as goodwill in connection with the acquisition of Vocality is not expected to be deductible for tax purposes.

The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of Vocality for fiscal years 2019 through 2023 and thereafter is as follows (in millions):

Year Ended September 30,	
2019	\$ 0.7
2020	0.6
2021	0.5
2022	0.5
2023	0.4
Thereafter	0.9

GATR

On February 2, 2016, we acquired all of the outstanding capital stock of GATR Technologies, LLC (GATR), a defense systems business based in Huntsville, Alabama which manufactures expeditionary satellite communication terminal

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solutions. GATR expands our satellite communications and networking applications technologies for our CMS segment and expands our customer base.

GATR's sales and results of operations included in our operating results for the years ended September 30, 2018, 2017 and 2016 were as follows (in millions):

	September 30,		
	2018	2017	2016
Sales	\$ 111.1	\$ 84.3	\$ 43.1
Operating income (loss)	4.0	1.9	(26.4)
Net income (loss) after taxes	2.9	1.4	(23.0)

GATR's operating results above included the following amounts for the years ended September 30, 2018, 2017 and 2016 (in millions):

	September 30,		
	2018	2017	2016
Amortization	\$ 11.1	\$ 12.7	\$ 9.7
(Gains) losses for changes in fair value of contingent consideration	—	(3.2)	0.7
Acquisition-related expenses	0.4	0.6	22.0

GATR's operating results for the year ended September 30, 2016 were significantly impacted by the GAAP accounting requirements regarding business combinations. Prior to our acquisition of GATR, GATR had a number of share-based payment awards in place to its employees. Due to the structure of certain of these share-based payment awards and the acceleration of vesting of certain of these awards in connection with our acquisition of GATR, we were required to recognize compensation expense, rather than purchase consideration, for the portion of our purchase price that we paid to the seller that was distributed to the recipients of these awards. Consequently, we recognized \$18.5 million of compensation expense within general and administrative expenses during the year ended September 30, 2016 related to this matter. Of this \$18.5 million amount, \$15.4 million is not deductible for tax purposes.

The acquisition-date fair value of consideration is \$220.5 million, which is comprised of cash paid of \$236.1 million plus the fair value of contingent consideration of \$2.5 million, less \$18.1 million of cash paid to the seller that was recognized as expense in fiscal 2016. The contingent consideration liability was re-measured to fair value at each reporting date until the contingencies were resolved and changes in fair value were recognized in earnings.

The acquisition of GATR was paid for predominantly with the proceeds of borrowings on our revolving credit agreement in 2016. The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Customer relationships	\$ 51.7
Backlog	3.4
Technology	10.7
Non-compete agreements	1.2
Trade name	4.7
Accounts receivable	10.6
Inventory	3.4
Income tax receivable	5.1
Accounts payable and accrued expenses	(2.4)
Deferred tax liabilities	(23.8)
Net identifiable assets acquired	64.6
Goodwill	155.9
Net assets acquired	\$ 220.5

The fair values of purchased intangibles were determined using the valuation methodology deemed to be the most appropriate for each type of asset being valued. The customer relationships and backlog valuation used the excess

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earnings approach, the non-compete agreements used the with-and-without approach, and the technology and trade name asset valuations used the relief from royalty approach.

The intangible assets are being amortized using a combination of straight-line and accelerated methods based on the expected cash flows from the assets, over a useful life of nine years from the date of acquisition.

At the time of the acquisition, the goodwill resulting from the acquisition was deemed to consist primarily of the synergies expected from combining the operations of GATR with our legacy CGD business, including the synergies expected from combining its satellite communications and networking applications technologies with our C4ISR products and other products in our legacy CGD portfolio.

The goodwill was also deemed to include the value of the assembled workforce that became our employees following the close of the acquisition and was allocated to our legacy CGD segment. As described in Note 17, we concluded that CMS became a separate operating segment beginning on October 1, 2017 distinct from our legacy CGD operating segment. In conjunction with the changes to reporting units, on October 1, 2017 we reassigned goodwill between CGD and CMS based on their relative fair values. The amount recorded as goodwill is generally not expected to be deductible for tax purposes.

The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of GATR for fiscal years 2019 through 2023 and thereafter is as follows (in millions):

Year Ended	
September 30,	
2019	\$ 9.8
2020	8.3
2021	6.9
2022	5.6
2023	3.8
Thereafter	3.8

TeraLogics

On December 21, 2015, we acquired all of the assets of TeraLogics, LLC, an Ashburn, Virginia-based provider of real-time full motion video processing, exploitation and dissemination for the Department of Defense, the intelligence community and commercial customers. TeraLogics' ability to develop real-time video analysis and delivery software

for full motion video complements the existing tactical communications portfolio of our CMS segment and expands our customer base.

TeraLogics' sales and results of operations included in our operating results for the years ended September 30, 2018, 2017 and 2016 were as follows (in millions):

	September 30,		
	2018	2017	2016
Sales	\$ 23.7	\$ 19.7	\$ 14.2
Operating income (loss)	0.3	(1.8)	(2.9)
Net income (loss) after taxes	0.2	(1.2)	(1.6)

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TeraLogics' operating results above included the following amounts for the years ended September 30, 2018, 2017 and 2016 (in millions):

	September 30,		
	2018	2017	2016
Amortization	\$ 2.8	\$ 3.5	\$ 3.0
Losses for changes in fair value of contingent consideration	1.3	1.3	1.5
Acquisition-related expenses	—	0.2	2.3

During the year ended September 30, 2016 we incurred a \$1.3 million charge for compensation expense incurred related to amounts paid to TeraLogics employees upon the close of the acquisition. This compensation expense is reflected in TeraLogics' acquisition-related expenses and the results of TeraLogics' operations above.

The acquisition-date fair value of consideration is \$33.9 million, which is comprised of cash paid of \$28.9 million plus the acquisition-date fair value of contingent consideration of \$5.0 million. The contingent consideration liability has been re-measured to fair value at each reporting date until the contingencies were resolved and changes in fair value have been recognized in earnings.

The acquisition of TeraLogics was paid for with a combination of funds from our existing cash resources and borrowings on our revolving credit facility. The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Customer relationships	\$ 6.7
Backlog	5.6
Software	2.5
Non-compete agreements	0.1
Accounts receivable	1.4
Accounts payable and accrued expenses	(0.5)
Other net assets acquired (liabilities assumed)	(0.1)
Net identifiable assets acquired	15.7
Goodwill	18.2
Net assets acquired	\$ 33.9

The fair values of purchased intangibles were determined using the valuation methodology deemed to be the most appropriate for each type of asset being valued. The customer relationships and backlog valuation used the excess earnings approach, the non-compete agreements used the with-and-without approach, and the software used the replacement cost new less cost decrements for obsolescence approach.

The intangible assets are being amortized using a combination of straight-line and accelerated methods based on the expected cash flows from the assets, over a useful life of seven years from the date of acquisition.

At the time of the acquisition, the goodwill resulting from the acquisition was deemed to consist primarily of the synergies expected from combining the operations of TeraLogics with our legacy CGD business, including the synergies expected from combining TeraLogics real-time video capabilities with our existing tactical communications product portfolio, as well as the value of the assembled workforce who became our employees following the close of the acquisition. The amount recorded as goodwill was assigned to our legacy CGD segment. As described in Note 17, we concluded that CMS became a separate operating segment beginning on October 1, 2017 distinct from our legacy CGD operating segment. In conjunction with the changes to reporting units, on October 1, 2017 we reassigned goodwill between CGD and CMS based on their relative fair values. The amount recorded as goodwill in connection with the acquisition of TeraLogics is expected to be deductible for tax purposes.

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The estimated amortization expense amounts related to the intangible assets recorded in connection with our acquisition of TeraLogics for fiscal years 2019 through 2023 and thereafter is as follows (in millions):

Year Ended September 30,	
2019	\$ 2.1
2020	1.4
2021	0.8
2022	0.5
2023	0.4
Thereafter	0.5

Acquisition of Trafficware Subsequent to September 30, 2018

In late October 2018, we acquired all of the outstanding capital stock of Advanced Traffic Solutions Inc. (Trafficware), a provider of intelligent traffic solutions for the transportation industry based in Sugar Land, Texas, which provides a fully integrated suite of software, Internet of Things (IoT) devices, and hardware solutions that provide customers with enhanced mobility and safety. Trafficware is expected to provide synergies from combining its capabilities with our existing CTS business. The purchase price is \$235.7 million adjusted for the difference between net working capital acquired and a targeted working capital amount, and was financed primarily with proceeds from draws on our line of credit. The final determination of the purchase price allocation is expected to be completed as soon as practicable after consummation of the acquisition. Due to the limited time between the acquisition date and the filing of this report and due to the difference in fiscal year dates between Trafficware and Cubic, it is not practicable for us to disclose: (i) the allocation of purchase price to assets acquired and liabilities assumed as of the date of close, (ii) the methods of amortization and amortization periods of acquired intangible assets, and (iii) pro forma revenues and earnings of the combined company for the two years ended September 30, 2018.

Pro forma information

The following unaudited pro forma information presents our consolidated results of operations as if Shield Aviation, MotionDSP, Deltenna, Vocality, GATR and TeraLogics had been included in our consolidated results since October 1, 2016 (in millions):

Year Ended
September 30,

	2018	2017
Net sales	\$ 1,204.0	\$ 1,112.1
Net income (loss)	\$ 9.9	\$ (29.5)

The pro forma information includes adjustments to give effect to pro forma events that are directly attributable to the acquisitions and have a continuing impact on operations including the amortization of purchased intangibles and the elimination of interest expense for the repayment of debt. No adjustments were made for transaction expenses, other adjustments that do not reflect ongoing operations or for operating efficiencies or synergies. The pro forma financial information is not necessarily indicative of what the consolidated financial results of our operations would have been had the acquisitions been completed on October 1, 2016, and it does not purport to project our future operating results.

NOTE 3—VARIABLE INTEREST ENTITIES

In accordance with ASC 810, Consolidation, we assess our partnerships and joint ventures at inception, and when there are changes in relevant factors to determine if any meet the qualifications of a variable interest entity (VIE). We consider a partnership or joint venture a VIE if it has any of the following characteristics: (a) the total equity investment is not sufficient to permit the entity to finance its activities without additional subordinated financial support, (b) characteristics of a controlling financial interest are missing (either the ability to make decisions through voting or other rights, the

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obligation to absorb the expected losses of the entity or the right to receive the expected residual returns of the entity), or (c) the voting rights of the equity holders are not proportional to their obligations to absorb the expected losses of the entity and/or their rights to receive the expected residual returns of the entity, and substantially all of the entity's activities either involve or are conducted on behalf of an investor that has disproportionately few voting rights.

We perform a qualitative assessment of each VIE to determine if we are its primary beneficiary. We conclude that we are the primary beneficiary and consolidate the VIE if we have both (a) the power to direct the activities that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE. We consider the VIE design, the contractual agreements that define the ownership structure, distribution of profits and losses, risks, responsibilities, indebtedness, voting rights and board representation of the respective parties in determining if we are the primary beneficiary. We also consider all parties that have direct or implicit variable interests when determining whether we are the primary beneficiary. As required by ASC 810, our primary beneficiary assessment is continuously performed.

In March 2018, Cubic Transportation System (CTS), a wholly owned subsidiary of Cubic, and John Laing, an unrelated company that specializes in contracting under public-private partnerships (P3), jointly formed Boston AFC 2.0 HoldCo. LLC (HoldCo.). Also in March 2018, HoldCo. created a wholly owned entity, Boston AFC 2.0 OpCo. LLC (OpCo.) which entered into a contract with the Massachusetts Bay Transit Authority (MBTA) for the financing, development, and operation of a next-generation fare payment system in Boston (the MBTA Contract). HoldCo. is 90% owned by John Laing and 10% owned by CTS. Collectively, HoldCo. and OpCo. are referred to as the P3 Venture. Based on our assessment under ASC 810, we have concluded that OpCo. and HoldCo. are VIE's and that we are the primary beneficiary of OpCo. Consequently, we have consolidated the financial statements of OpCo. within Cubic's consolidated financial statements. We have concluded that we are not the primary beneficiary of HoldCo., and thus we have not consolidated the financial statements of HoldCo. within Cubic's consolidated financial statements.

The MBTA Contract consists of a design and build phase of approximately three years and an operate and maintain phase of approximately ten years. The design and build phase is planned to be completed in 2021 and the operate and maintain phase will span from 2021 through 2031. MBTA will make estimated payments of \$664.0 million to OpCo. in connection with the MBTA Contract over the ten-year operate and maintain phase. All of OpCo.'s contractual responsibilities regarding the design and development and the operation and maintenance of the fare system have been subcontracted to CTS by OpCo. CTS will receive estimated payments of \$510.0 million under its subcontract with OpCo.

Upon creation of the P3 Venture, John Laing made a loan to HoldCo. of \$24.3 million in the form of a bridge loan that is intended to be converted to equity in the future in accordance with its equity funding responsibilities. Concurrently, HoldCo. made a corresponding equity contribution to OpCo. in the same amount which is included within equity of Noncontrolling interest in VIE within Cubic's consolidated financial statements. Also, upon creation of the P3 Venture, CTS issued a letter of credit for \$2.7 million to HoldCo. in accordance with CTS's equity funding responsibilities. HoldCo. is able to draw on the CTS letter of credit in certain liquidity instances, but no amounts have been drawn on this letter of credit as of September 30, 2018.

Upon creation of the P3 Venture, OpCo. entered into a credit agreement with a group of financial institutions (the OpCo. Credit Agreement) which includes a long-term debt facility and a revolving credit facility. The long-term debt facility allows for draws up to a maximum amount of \$212.4 million; draws may only be made during the design and build phase of the MBTA Contract. The long-term debt facility, including interest and fees incurred during the design and build phase, is required to be repaid on a fixed monthly schedule over the operate and maintain phase of the MBTA Contract. The long-term debt facility bears interest at variable rates of LIBOR plus 1.3% and LIBOR plus 1.55% over the design and build and operate and maintain phases of the MBTA Contract, respectively. At September 30, 2018, the outstanding balance on the long-term debt facility was \$17.8 million, which is presented net of unamortized deferred financing costs of \$8.7 million. The revolving credit facility allows for draws up to a maximum amount of \$13.9 million and is only available to be drawn on during the operate and maintain phase of the MBTA Contract. OpCo.'s debt is nonrecourse with respect to Cubic and its subsidiaries. The fair value of the long-term debt facility approximates its carrying value.

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The OpCo. Credit Agreement contains a number of covenants which require that OpCo. and Cubic maintain progress on the delivery of the MBTA Contract within a specified timeline and budget and provide regular reporting on such progress. The OpCo. Credit Agreement also contains a number of customary events of default including, but not limited to, the successful delivery of a customized fare collection system to MBTA by a pre-determined date. Failure to meet such delivery date will result in OpCo., and Cubic via its subcontract with OpCo., to incur penalties due to the lenders.

OpCo. has entered into pay-fixed/receive-variable interest rate swaps with a group of financial institutions to mitigate variable interest rate risk associated with its long-term debt. The interest rate swaps contain forward starting notional principal amounts which align with OpCo.'s expected draws on its long-term debt facility. At September 30, 2018, the outstanding notional principal amounts on open interest rate swaps were \$38.6 million. The fair value of OpCo.'s interest rate swaps at September 30, 2018 was less than \$0.1 million. OpCo.'s interest rate swaps were not designated as effective hedges at September 30, 2018 and as such any unrealized gains/losses are included in other income (expense), net. Unrealized gains/losses as a result of changes in the fair value of OpCo.'s interest rate swaps were not material for the year ended September 30, 2018. See Note 4 for a description of the measurement of fair value of derivative financial instruments, including OpCo.'s interest rate swaps.

At September 30, 2018, OpCo. holds a \$10.0 million restricted cash balance which is required by the MBTA Contract to allow for the delivery of future change orders and unplanned expansions as directed by MBTA.

The assets and liabilities of OpCo. that are included in our consolidated balance sheet at September 30, 2018, excluding \$20.8 million of assets that are eliminated in consolidation, are as follows:

	September 30, 2018 (in thousands)
Cash	\$ 374
Restricted cash	10,000
Long-term capitalized contract costs	1,258
Other noncurrent assets	810
Total assets	\$ 12,442
Trade accounts payable	\$ 165
Other noncurrent liabilities	13
Long-term debt	9,056
Total liabilities	9,234
Total Cubic equity	(304)
Noncontrolling interests	24,348

Total liabilities and owners' equity \$ 33,278

The assets of OpCo. are restricted for its use only and are not available for the general operations of Cubic. OpCo.'s debt is non-recourse to Cubic. Cubic's maximum exposure to loss as a result of its equity interest in the P3 Venture is limited to the \$2.7 million outstanding letter of credit, which will be converted to a cash contribution upon completion of the design and build phase of the MBTA Contract.

Included within long-term capitalized contract costs at September 30, 2018 are \$27.8 million of costs related to Cubic's delivery of the design and build deliverables under the MBTA Contract and related subcontract between OpCo and Cubic.

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NOTE 4—FAIR VALUE OF FINANCIAL INSTRUMENTS

The valuation techniques required to determine fair value are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect internal market assumptions. The two types of inputs create the following fair value hierarchy:

- Level 1 - Quoted prices for identical instruments in active markets.
- Level 2 - Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations whose inputs are observable or whose significant value drivers are observable.
- Level 3 - Significant inputs to the valuation model are unobservable.

The following table presents assets and liabilities measured and recorded at fair value on our balance sheets on a recurring basis (in thousands):

	September 30, 2018				September 30, 2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets								
Cash equivalents	\$ 9,000	\$ —	\$ —	\$ 9,000	\$ 8,501	\$ —	\$ —	\$ 8,501
Current derivative assets	—	1,803	—	1,803	—	2,591	—	2,591
Noncurrent derivative assets	—	314	—	314	—	1,128	—	1,128
Total assets measured at fair value	\$ 9,000	\$ 2,117	\$ —	\$ 11,117	\$ 8,501	\$ 3,719	\$ —	\$ 12,220
Liabilities								
Current derivative liabilities	—	1,657	—	1,657	—	3,456	—	3,456
Noncurrent derivative liabilities	—	75	—	75	—	1,128	—	1,128
Contingent consideration to seller of Deltenna	—	—	1,081	1,081	—	—	1,376	1,376
Contingent consideration to seller of Shield Aviation	—	—	5,618	5,618	—	—	—	—

Contingent consideration to seller of TeraLogics - contract extensions	—	—	—	—	—	—	800	800
Contingent consideration to seller of TeraLogics - revenue targets	—	—	1,750	1,750	—	—	2,450	2,450
Contingent consideration to seller of H4 Global	—	—	665	665	—	—	591	591
Total liabilities measured at fair value	\$ —	\$ 1,732	\$ 9,114	\$ 10,846	\$ —	\$ 4,584	\$ 5,217	\$ 9,801

The fair value of certain of our cash equivalents are based upon quoted prices for identical instruments in active markets. The fair value of our other cash equivalents and our available for sale marketable securities is based upon a discounted cash flow model and approximate cost. The marketable securities in the rabbi trust are carried at fair value, which is based upon quoted market prices for identical securities. Derivative financial instruments are measured at fair value, the material portions of which are based on active or inactive markets for identical or similar instruments or model-derived valuations whose inputs are observable. Where model-derived valuations are appropriate, we use the applicable credit spread as the discount rate. Credit risk related to derivative financial instruments is considered minimal and is managed by requiring high credit standards for counterparties and through periodic settlements of positions.

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The fair value of contingent consideration liabilities to the sellers of businesses that we have acquired are revalued to their fair value each period and any increase or decrease is recorded into selling, general and administrative expense. Any changes in the assumed timing and amount of the probability of payment scenarios could impact the fair value.

The Deltenna contingent consideration is based upon revenue targets and one of the TeraLogics contingent consideration measurements is based upon revenue targets. Until the contingencies are resolved for these measurements, the fair values of these contingent consideration liabilities are valued using a real option approach. Under this approach, each payment was modeled using long digital options written on the underlying revenue metric. The strike price for each option is the respective revenue as specified in the related agreement, and the spot price is calibrated to the revenue forecast by calculating the present value of the corresponding projected revenues using a risk-adjusted discount rate. The volatility for the underlying revenue metrics was based upon analysis of comparable guideline public companies and the volatility factor used in the September 30, 2018 valuation was 53% for Deltenna. The volatility factor used in the September 30, 2017 valuations was 40% for Deltenna and 15% for TeraLogics. The risk-free rate was selected based on the quoted yields for U.S. Treasury securities with terms matching the earn-out payment period. At September 30, 2018, the contingencies were resolved for the TeraLogics revenue earn-out and the liability at September 30, 2018 represents the amount earned as of that date.

The fair value of the portion of the TeraLogics contingent consideration that is based on customer execution of contract extensions was estimated using a probability weighted approach. This portion of TeraLogics' contingent consideration was fully paid out as of September 30, 2018 based on its achievement of the contract extensions.

The fair value of the Shield contingent consideration was estimated based on Monte Carlo simulations. Under the purchase agreement, we will pay the sellers up to \$10.0 million if Shield meets certain sales goals from the date of acquisition through July 31, 2025. The fair value of the contingent consideration was determined based upon a probability distribution of values based on 100,000 iterations. Key inputs for the simulation include projected revenues, assumed discount rates for projected revenue and cash flows, and volatility. The volatility and revenue risk adjustment factors used as of September 30, 2018 were 20% and 14.5%, respectively, and were determined based on analysis of publicly traded comparable companies. The discount rate used as of September 30, 2018 was based on our expected borrowing rate under our financing arrangements, which was determined to be 3.9% at September 30, 2018.

The maximum remaining payout to the sellers of H4 Global is \$3.3 million at September 30, 2018, and is based upon the value of contracts entered into over the five-year period ending September 30, 2020. The fair value of the H4 Global contingent consideration was estimated using a probability weighted approach. Subject to the terms and conditions of the H4 Global purchase agreement, contingent consideration will be paid over a five year term that commenced on October 1, 2015 and ends on September 30, 2020. The payments will be calculated based on the award of certain contracts during the specified period. The fair value of the contingent consideration was determined by applying probabilities to different scenarios, and summing the present value of any future payments.

The inputs to each of the contingent consideration fair value models include significant unobservable inputs and therefore represent Level 3 measurements within the fair value hierarchy. Significant judgment is employed in determining the appropriateness of these assumptions as of the acquisition dates and each subsequent period.

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Accordingly, changes in the assumptions described above can materially impact the amount of contingent consideration expense we record in any period.

As of September 30, 2018, the following table summarizes the change in fair value of our Level 3 contingent consideration liability (in thousands):

	DTECH	H4	TeraLogics (Contract Extensions)	TeraLogics (Revenue Targets)	GATR	Deltenna	Shield Aviation	Total
Balance as of September 30, 2016	\$ 2,000	\$ 567	\$ 1,400	\$ 4,100	\$ 3,200	\$ —	\$ —	\$ 11,267
Initial measurement recognized at acquisition	—	—	—	—	—	1,328	—	1,328
Cash paid to seller	—	—	(1,000)	(2,500)	—	—	—	(3,500)
Total remeasurement (gain) loss recognized in earnings	(2,000)	24	400	850	(3,200)	48	—	(3,878)
Balance as of September 30, 2017	\$ —	\$ 591	\$ 800	\$ 2,450	\$ —	\$ 1,376	\$ —	\$ 5,217
Initial measurement recognized at acquisition	—	—	—	—	—	—	5,618	5,618
Cash paid to seller	—	—	(1,000)	(1,750)	—	—	—	(2,750)
Total remeasurement (gain) loss recognized in earnings	—	74	200	1,050	—	(295)	—	1,029
Balance as of September 30, 2018	\$ —	\$ 665	\$ —	\$ 1,750	\$ —	\$ 1,081	\$ 5,618	\$ 9,114

We carry certain financial instruments, including accounts receivable, short-term borrowings, accounts payable and accrued liabilities at cost, which we believe approximates fair value because of the short-term maturity of these instruments.

The fair value of long-term debt is calculated by discounting the value of the note based on market interest rates for similar debt instruments, which is a Level 2 technique. The following table presents the estimated fair value and carrying value of our long-term debt (in millions):

	September 30, 2018	September 30, 2017
Fair value	\$ 193.7	\$ 202.1
Carrying value	\$ 200.0	\$ 200.0

We did not have any significant non-financial assets or liabilities measured at fair value on a non-recurring basis in 2018, 2017, or 2016 other than assets and liabilities acquired in business acquisitions.

NOTE 5—ACCOUNTS RECEIVABLE

The components of accounts receivable under long-term contracts are as follows (in thousands):

September 30,	2018	2017
U.S. Government Contracts:		
Amounts billed	\$ 80,547	\$ 53,450
Recoverable costs and accrued profits on progress completed--not billed	62,665	36,341
	143,212	89,791
Commercial Customers:		
Amounts billed	76,401	131,532
Recoverable costs and accrued profits on progress completed--not billed	180,212	150,610
	256,613	282,142
	399,825	371,933
Less unbilled amounts not currently due--commercial customers	(6,134)	(17,457)
	\$ 393,691	\$ 354,476

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A portion of recoverable costs and accrued profits on progress completed is billable under progress or milestone payment provisions of the related contracts. The remainder of these amounts is billable upon delivery of products or furnishing of services, with an immaterial amount subject to retainage provisions of the contracts. It is anticipated that we will bill and collect substantially the entire unbilled portion of receivables identified as current assets under progress billing provisions of the contracts or upon completion of milestones and/or acceptance by the customers during fiscal 2019. The amount classified as not currently due is an estimate of the amount of long-term contract accounts receivable that will not be collected within one year from September 30, 2018 under transportation systems contracts in the U.S. and Australia, and under a CGD contract in Italy based upon the payment terms in the contracts.

NOTE 6—INVENTORIES

Significant components of inventories are as follows (in thousands):

	September 30, 2018	September 30, 2017
Finished products	\$ 7,099	\$ 4,369
Work in process and inventoried costs under long-term contracts	63,169	84,131
Materials and purchased parts	23,710	10,163
Customer advances	(9,779)	(10,948)
Net inventories	\$ 84,199	\$ 87,715

At September 30, 2018, work in process and inventoried costs under long-term contracts includes approximately \$0.9 million in costs incurred outside the scope of work or in advance of a contract award, compared to \$4.3 million as of September 30, 2017. We believe it is probable that we will recover the costs inventoried at September 30, 2018, plus a profit margin, under contract change orders or awards within the next year.

Costs we incur for certain U.S. federal government contracts include general and administrative costs as allowed by government cost accounting standards. The amounts remaining in inventory at September 30, 2018 and 2017 were \$2.0 million and \$2.5 million, respectively.

NOTE 7—PROPERTY, PLANT AND EQUIPMENT

Significant components of property, plant and equipment are as follows (in thousands):

September 30,	2018	2017
Land and land improvements	\$ 13,132	\$ 16,139
Buildings and improvements	57,959	52,625
Machinery and other equipment	81,727	73,235
Software	84,631	62,297
Leasehold improvements	11,991	13,298
Construction and internal-use software development in progress	12,888	23,156
Accumulated depreciation and amortization	(144,782)	(127,530)
	\$ 117,546	\$ 113,220

As a part of our efforts to upgrade our current information systems, early in fiscal 2015 we purchased new enterprise resource planning (ERP) software and began the process of designing and configuring this software and other software applications to manage our operations.

Costs incurred in the development of internal-use software and software applications, including external direct costs of materials and services and applicable compensation costs of employees devoted to specific software development, are capitalized as computer software costs. Costs incurred outside of the application development stage, or that are types of costs that do not meet the capitalization requirements, are expensed as incurred. Amounts capitalized are included in

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property, plant and equipment and are amortized on a straight-line basis over the estimated useful life of the software, which ranges from three to seven years. No amortization expense is recorded until the software is ready for its intended use.

Through September 30, 2018 we have incurred costs of \$135.8 million related to the purchase and development of our ERP system, including \$22.5 million, \$40.6 million, and \$45.2 million of costs incurred during fiscal years 2018, 2017 and 2016, respectively. We have capitalized \$7.5 million, \$16.7 million, and \$20.3 million of qualifying software development costs as internal-use software development in progress during fiscal years 2018, 2017, and 2016, respectively. We have recognized expense for \$15.0 million, \$23.9 million, and \$24.9 million of these costs in fiscal years 2018, 2017, and 2016, respectively, for costs that did not qualify for capitalization. Amounts that were expensed in connection with the development of these systems are classified within selling, general and administrative expenses in the Consolidated Statements of Operations.

Various components of our ERP system became ready for their intended use and were placed into service on April 1, 2016, October 1, 2016, October 1, 2017, and April 1, 2018. As each component became ready for its intended use, the component's costs were transferred into completed software and we began amortizing these costs over their seven-year estimated useful life. We continue to capitalize costs associated with the development of other ERP components that are not yet ready for their intended use. The final phase of implementation will begin in early fiscal 2019.

Our provisions for depreciation of plant and equipment and amortization of leasehold improvements and software amounted to \$19.5 million, \$17.8 million and \$11.0 million in 2018, 2017 and 2016, respectively. Generally, we use straight-line methods for depreciable real property over estimated useful lives ranging from 15 to 39 years or for leasehold improvements, the term of the underlying lease if shorter than the estimated useful lives. We use accelerated methods (declining balance and sum-of-the-years-digits) for machinery and equipment and software other than our ERP system over estimated useful lives ranging from 5 to 10 years.

NOTE 8—GOODWILL AND PURCHASED INTANGIBLE ASSETS

The changes in the carrying amount of goodwill for the two years ended September 30, 2018 are as follows (in thousands):

		Cubic Mission Solutions	
Transportation Systems	Cubic Global Defense		Total

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Net balances at October 1, 2016	\$ 49,630	\$ 262,966	\$ —	\$ 312,596
Acquisitions (see Note 2)	—	5,885	—	5,885
Foreign currency exchange rate changes	1,240	1,841	—	3,081
Net balances at September 30, 2017	50,870	270,692	—	321,562
Reassignment on October 1, 2017	—	(125,321)	125,321	