CUBIC CORP /DE/ Form 10-Q May 02, 2019 Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

QUARTERLY REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the Quarter Ended March 31, 2019

001-08931

Commission File Number

CUBIC CORPORATION

Exact Name of Registrant as Specified in its Charter

Delaware95-1678055State of IncorporationIRS Employer Identification No.

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

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Common StockCUBNew York Stock Exchange, Inc.Title of each classTrading symbolName of exchange on which registered

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, and (2) has been subject to such filing requirements for the past 90 days. Yes No

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

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

Large accelerated filer Accelerated filer

Non-accelerated filer

Small 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 12-b-2 of the Exchange Act). Yes No

As of April 18, 2019, registrant had only one class of common stock of which there were 31,157,398 shares outstanding (after deducting 8,945,300 shares held as treasury stock).

CUBIC CORPORATION

QUARTERLY REPORT ON FORM 10-Q

For the Quarter Ended March 31, 2019

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PART I - FINANCIAL INFORMATION

ITEM 1 - FINANCIAL STATEMENTS

CUBIC CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (UNAUDITED)

(amounts in thousands, except per share data)

	Three Months Ended March 31,		Six Months E March 31,	Ended
	2019	2018	2019	2018
Net sales:	_017	2010	2017	2010
Products	\$ 222,744	\$ 157,445	\$ 404,997	\$ 289,188
Services	114,595	121,141	237,601	237,789
	337,339	278,586	642,598	526,977
Costs and expenses:	-		·	-
Products	167,567	117,093	293,052	208,666
Services	82,212	78,457	174,997	164,674
Selling, general and administrative expenses	66,195	63,773	129,181	125,453
Research and development	13,754	14,202	25,766	26,179
Amortization of purchased intangibles	12,395	6,484	22,960	13,835
Restructuring costs	1,757	256	3,749	1,751
C C	343,880	280,265	649,705	540,558
Operating loss	(6,541)	(1,679)	(7,107)	(13,581)
Other income (expenses):				
Interest and dividend income	1,413	625	2,647	1,107
Interest expense	(4,531)	(2,911)	(8,563)	(5,585)
Other income (expense), net	(3,602)	2,028	(8,355)	1,950
Loss from continuing operations before income taxes	(13,261)	(1,937)	(21,378)	(16,109)
Income tax (benefit) provision	(3,831)	1,409	(1,334)	(1,328)
Loss from continuing operations	(9,430)	(3,346)	(20,044)	(14,781)
Net income (loss) from discontinued operations	(1,339)	1,335	(1,339)	2,984
Net loss	(10,769)	(2,011)	(21,383)	(11,797)
Less noncontrolling interest in loss of VIE	(1,377)	_	(5,404)	
Net loss attributable to Cubic	\$ (9,392)	\$ (2,011)	\$ (15,979)	\$ (11,797)
Amounts attributable to Cubic:				

Net loss from continuing operations Net income (loss) from discontinued operations Net loss attributable to Cubic	\$ (8,053) (1,339) \$ (9,392)	\$ (3,346) 1,335 \$ (2,011)	\$ (14,640) (1,339) \$ (15,979)	\$ (14,781) 2,984 \$ (11,797)
Net income (loss) per share:				
Basic				
Continuing operations attributable to Cubic	\$ (0.26)	\$ (0.12)	\$ (0.49)	\$ (0.54)
Discontinued operations	\$ (0.04)	\$ 0.05	\$ (0.04)	\$ 0.11
Basic earnings per share attributable to Cubic	\$ (0.30)	\$ (0.07)	\$ (0.54)	\$ (0.43)
Diluted				
Continuing operations attributable to Cubic	\$ (0.26)	\$ (0.12)	\$ (0.49)	\$ (0.54)
Discontinued operations	\$ (0.04)	\$ 0.05	\$ (0.04)	\$ 0.11
Diluted earnings per share attributable to Cubic	\$ (0.30)	\$ (0.07)	\$ (0.54)	\$ (0.43)
Dividends per common share	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.14
Weighted average shares used in per share				
calculations:				
Basic	31,150	27,223	29,821	27,215
Diluted	31,150	27,223	29,821	27,215
See accompanying notes.				

CUBIC CORPORATION

CONDENSED CONSOLIDATED

STATEMENTS OF COMPREHENSIVE INCOME (LOSS) (UNAUDITED)

(in thousands)

	Three Months March 31,	s Ended	Six Months E March 31,	Inded
	2019	2018	2019	2018
Net loss	\$ (10,769)	\$ (2,011)	\$ (21,383)	\$ (11,797)
Other comprehensive income (loss):				
Foreign currency translation	2,962	3,544	(356)	3,352
Change in unrealized gains/losses from cash flow				
hedges:				
Change in fair value of cash flow hedges, net of tax	(762)	(790)	581	(763)
Adjustment for net gains/losses realized and included in				
net income, net of tax	286	95	262	599
Total change in unrealized gains/losses realized from				
cash flow hedges, net of tax	(476)	(695)	843	(164)
Total other comprehensive income	2,486	2,849	487	3,188
Total comprehensive income (loss)	(8,283)	838	(20,896)	(8,609)
Noncontrolling interest in comprehensive loss of				
consolidated VIE, net of tax	(1,377)		(5,404)	
Comprehensive income (loss) attributable to Cubic, net				
of tax	\$ (6,906)	\$ 838	\$ (15,492)	\$ (8,609)

CUBIC CORPORATION

CONDENSED CONSOLIDATED BALANCE SHEETS (UNAUDITED)

(in thousands)

	March 31, 2019	September 30, 2018
ASSETS		
Current assets:	\$ 17 182	¢ 111 021
Cash and cash equivalents Cash in consolidated VIE	\$ 42,483 362	\$ 111,834 374
Restricted cash	19,064	17,400
Restricted cash in consolidated VIE	9,967	17,400
Accounts receivable:	9,907	10,000
Long-term contracts	159,246	393,691
Allowance for doubtful accounts	(1,714)	(1,324)
	157,532	392,367
	137,332	572,507
Contract assets	296,920	_
Recoverable income taxes	5,910	91
Inventories	119,870	84,199
Assets held for sale	12,620	8,177
Other current assets	44,471	43,705
Other current assets in consolidated VIE	43	—
Total current assets	709,242	668,147
Long-term contracts receivables		6,134
Long-term contracts financing receivables	41,758	—
Long-term contracts financing receivables in consolidated VIE	68,779	—
Long-term capitalized contract costs		84,924
Long-term capitalized contract costs in consolidated VIE		1,258
Property, plant and equipment, net	129,367	117,546
Deferred income taxes	4,798	4,713
Goodwill	579,648	333,626
Purchased intangibles, net	184,104	73,533
Other assets	14,290	14,192
Other assets in consolidated VIE	1,114	\$10 \$ 1 204 882
Total assets	\$ 1,733,100	\$ 1,304,883
LIABILITIES AND SHAREHOLDERS' EQUITY Current liabilities:		
Short-term borrowings	\$ 209,000	\$ —
Trade accounts payable	129,686	⁰ 125,414
Trade accounts payable in consolidated VIE	156	165
	-	-

Contract liabilities	78,352	
Customer advances	—	75,941
Accrued compensation and other current liabilities	93,256	118,233
Accrued compensation and other current liabilities in consolidated VIE	204	
Income taxes payable	2,690	8,586
Current portion of long-term debt	10,714	
Total current liabilities	524,058	328,339
Long-term debt	189,095	199,793
Long-term debt in consolidated VIE	25,602	9,056
Other long-term liabilities	41,290	43,486
Other long-term liabilities in consolidated VIE	9,866	13
Shareholders' equity: Common stock Retained earnings Accumulated other comprehensive loss Treasury stock at cost Shareholders' equity related to Cubic Noncontrolling interest in consolidated VIE Total shareholders' equity Total liabilities and shareholders' equity	264,612 801,486 (110,156) (36,078) 919,864 23,325 943,189 \$ 1,733,100	45,008 801,834 (110,643) (36,078) 700,121 24,075 724,196 \$ 1,304,883

See accompanying notes.

CUBIC CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

(in thousands)

	Three Months March 31,	Ended	Six Months Er March 31,	nded
Our sections And statistics	2019	2018	2019	2018
Operating Activities: Net loss Net (income) loss from discontinued operations Adjustments to reconcile net loss to net cash provided by (used in) operating activities:	\$ (10,769) 1,339	\$ (2,011) (1,335)	\$ (21,383) 1,339	\$ (11,797) (2,984)
Depreciation and amortization Share-based compensation expense Change in fair value of contingent consideration Loss on disposal of assets Deferred income taxes	17,587 3,638 241 (5,825)	11,058 870 154 (1,474) (185)	33,598 6,358 670 (5,825)	23,491 2,497 452 (1,474) (185)
Changes in operating assets and liabilities, net of effects from acquisitions: NET CASH PROVIDED BY (USED IN) CONTINUING OPERATING ACTIVITIES NET CASH PROVIDED BY OPERATING	(28,754) (22,543)	5,417 12,494	(98,467) (83,710)	(9,021) 979
ACTIVITIES FROM DISCONTINUED OPERATIONS NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	— (22,543)	21,556 34,050	— (83,710)	6,133 7,112
Investing Activities: Acquisition of businesses, net of cash acquired Purchases of property, plant and equipment Proceeds from sale of assets Purchase of non-marketable debt and equity securities NET CASH USED IN INVESTING ACTIVITIES	(148,704) (10,132) — (158,836)	(4,884) (5,468) 2,400 (579) (8,531)	(395,854) (22,177) — (418,031)	(9,534) (11,786) 2,400 (1,250) (20,170)
Financing Activities: Proceeds from short-term borrowings Principal payments on short-term borrowings Proceeds from long-term borrowings in consolidated VIE Proceeds from stock issued under employee stock	242,500 (98,000) 9,700	37,120 (48,120) —	614,500 (405,500) 15,498	119,120 (97,120) —
purchase plan Purchase of common stock Dividends paid Contingent consideration payments related to	783 (4,205)	798 (68) (3,676)	783 (3,419) (4,205)	798 (2,324) (3,676)
acquisitions of businesses	(385)	—	(820)	(656)

Proceeds from equity offering, net NET CASH PROVIDED BY (USED IN)	_		215,832	—
FINANCING ACTIVITIES	150,393	(13,946)	432,669	16,142
Effect of exchange rates on cash	(622)	(1,209)	1,340	(532)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(31,608)	10,364	(67,732)	2,552
Cash and cash equivalents at the beginning of the period	103,484	60,765	139,608	68,577
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD	\$ 71,876	\$ 71,129	\$ 71,876	\$ 71,129
Supplemental disclosure of non-cash investing and financing activities: Receivable recognized in connection with the				
acquisition of Trafficware, net Receivable recognized in connection with the	\$ —	\$ —	\$ 1,588	\$ —
acquisition of Gridsmart, net Receivable recognized in connection with the	\$ 442	\$ —	\$ 442	\$ —
acquisition of Nuvotronics, net Liability incurred to acquire Nuvotronics, net	\$ 166 \$ 4,900	\$ — \$ —	\$ 166 \$ 4,900	\$ — \$ —

See accompanying notes.

CUBIC CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF

CHANGES IN SHAREHOLDERS' EQUITY (UNAUDITED)

(in thousands except	Co	ommon	Re	etained	Accumulated Other Comprehensive	e Tr	easury		oncontrollin terest in	ngNumber of Shares
per share amounts)	St	ock	Ea	arnings	Loss	St	ock	V	ΙE	Outstanding
October 1, 2018	\$	45,008	\$	801,834	\$ (110,643)	\$	(36,078)	\$	24,075	27,255
Net loss Other				(15,979)					(5,404)	
comprehensive loss, net of tax Stock issued under		—		_	487		_		_	_
employee stock purchase plan Purchase of		783			—					15
common stock Stock-based		(3,419)			—				—	(47)
compensation Cumulative effect of accounting		6,358							_	132
standard adoption Stock issued under		—		19,834			—		4,655	—
equity offering Cash dividends paid \$.14 per share of		215,832		—	_		—		—	3,795
common stock Other		50		(4,205) 2	_		_		(1)	_
March 31, 2019	\$	264,612	\$	801,486	\$ (110,156)	\$	(36,078)	\$	23,325	31,150

Accumulated

(in thousands except	Common	Retained	Other Comprehensive	Treasury	Noncontro Interest in	ll Nig mber of Shares
per share amounts)	Stock	Earnings	Loss	Stock	VIE	Outstanding
October 1, 2017	\$ 37,850	\$ 794,485	\$ (106,626)	\$ (36,078)	\$ —	27,127
Net loss		(11,797)	_	_		_
Other comprehensive loss, net of tax Stock issued under	_	_	3,188	_	_	_
employee stock purchase plan Purchase of common	798	—	—	—	_	14
stock Stock-based	(2,324)		—	—	—	(43)
compensation Cash dividends paid	3,755	—	_	—	—	127
\$.14 per share of common stock		(3,676)	_	_		
March 31, 2018	\$ 40,079	\$ 779,012	\$ (103,438)	\$ (36,078)	\$ —	27,225

See accompanying notes.

CUBIC CORPORATION

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(UNAUDITED)

March 31, 2019

Note 1 — Basis for Presentation

Cubic Corporation ("we", "us", and "Cubic") has prepared the accompanying unaudited condensed consolidated financial statements in accordance with U.S. generally accepted accounting principles (GAAP) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all information and footnotes required by accounting principles generally accepted in the United States for complete financial statements.

In our opinion, the accompanying financial statements reflect all adjustments, consisting of normal recurring adjustments, considered necessary for a fair presentation of the results for the interim periods presented. Operating results for the three- and six-month periods ended March 31, 2019 are not necessarily indicative of the results that may be expected for the year ending September 30, 2019. For further information, refer to the consolidated financial statements and footnotes thereto included in our Annual Report on Form 10-K for the year ended September 30, 2018.

The preparation of the financial statements in conformity with GAAP requires us to make estimates and assumptions 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. Actual results could differ from those estimates.

Through September 30, 2017 our principal lines of business were fare collection and real time information systems and services, defense training and command, control, communication, computers, intelligence, surveillance and reconnaissance (C4ISR) 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 the 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. Refer to "Note 3 – Acquisitions and Divestitures" for additional information about the sale of CGD Services and the related discontinued operation classification. In addition, we concluded that Cubic Mission Solutions become a separate operating and reportable segment beginning on October 1, 2017. As a result, we now operate in

three reportable segments: Cubic Transportation Systems (CTS), Cubic Global Defense Systems (CGD) and Cubic Mission Solutions (CMS).

Recently Adopted Accounting Pronouncements - Revenue Recognition

Revenue Recognition: Effective October 1, 2018, we adopted Accounting Standards Update (ASU) 2014-09, Revenue from Contracts with Customers, as amended (commonly referred to as ASC 606), using the modified retrospective transition method. The adoption of ASC 606 resulted in a change in our significant accounting policy regarding revenue recognition, and resulted in changes in our accounting policies regarding contract estimates, backlog, inventory, contract assets, long-term capitalized contract costs, and contract liabilities as described below.

The cumulative effect of applying the standard was an increase of \$24.5 million to shareholders' equity as of October 1, 2018. Our Condensed Consolidated Statements of Operations for the quarter and six-months ended March 31, 2019 and our Condensed Consolidated Balance Sheet as of March 31, 2019 are presented under ASC 606, while our Condensed Consolidated Statements of Operations for the quarter and six months ended March 31, 2018 and our Condensed Consolidated Balance Sheet as of September 30, 2018 are presented under the legacy revenue recognition guidance under ASC 605. See Note 2 for disclosure of the impact of the adoption of ASC 606 on our Condensed Consolidated Statements of Operations for the quarter and six months ended March 31, 2019 and our Condensed Consolidated Balance Sheet as of March 31, 2019, and the effect of changes made to our Condensed Consolidated Balance Sheet as of March 31, 2019, and the effect of changes made to our Condensed Consolidated Balance Sheet as of October 1, 2018.

We generate revenue from the sale of integrated solutions such as mass transit fare collection systems, air and ground combat training systems, and products with C4ISR capabilities. A significant portion of our revenues are generated from

long-term fixed-price contracts with customers that require us to design, develop, manufacture, modify, upgrade, test and integrate complex systems according to the customer's specifications. We also generate revenue from services we provide, such as the operation and maintenance of fare systems for mass transit customers and the support of specialized military training exercises mainly for international customers. Our contracts are primarily with the U.S. government, state and local municipalities, international government customers, and international local municipal transit agencies. We classify sales as products or services in our Condensed Consolidated Statements of Operations based on the attributes of the underlying contracts.

We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. For certain contracts that meet the foregoing requirements, primarily international direct commercial sale contracts, we are required to obtain certain regulatory approvals. In these cases where regulatory approval is required in addition to approval from both parties, we recognize revenue based on the likelihood of obtaining timely regulatory approvals based upon all known facts and circumstances.

To determine the proper revenue recognition method, we evaluate each contractual arrangement to identify all performance obligations. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. The majority of our contracts have a single performance obligation because the promise to transfer the individual good or service is not separately identifiable from other promises within the contract and is, therefore, not distinct. These contractual arrangements either require the use of a highly specialized engineering, development and manufacturing process to provide goods according to customer specifications or represent a bundle of contracted goods and services that are integrated and together represent a combined output, which may include the delivery of multiple units.

Some of our contracts have multiple performance obligations, primarily (i) related to the provision of multiple goods or services or (ii) due to the contract covering multiple phases of the product lifecycle (for instance: development and engineering, production, maintenance and support). For contracts with more than one performance obligation, we allocate the transaction price to the performance obligations based upon their relative standalone selling prices. For such contracts we evaluate whether the stated selling prices for the products or services represent their standalone selling prices. In cases where a contract requires a customized good or service, our primary method used to estimate the standalone selling price is the expected cost plus a margin approach. In cases where we sell a standard product or service offering, the standalone selling price is based on an observable standalone selling price. Our contracts with the U.S. government, including contracts under the U.S. Department of Defense's Foreign Military Sales program (FMS Contracts), are subject to the Federal Acquisition Regulations (FAR) and the price is typically based on estimated or actual costs plus a reasonable profit margin. As a result of these regulations, the standalone selling price stated in the contract. Therefore, we typically do not need to allocate (or reallocate) the transaction price to multiple performance obligations in our contracts with the U.S. government.

The majority of our sales are from performance obligations satisfied over time. Sales are recognized over time when control is continuously transferred to the customer during the contract or the contracted good does not have alternative

use to us. For U.S. government contracts, the continuous transfer of control to the customer is supported by contract clauses that provide for (i) progress or performance-based payments or (ii) the unilateral right of the customer to terminate the contract for its convenience, in which case we have the right to receive payment for costs incurred plus a reasonable profit for products and services that do not have alternative uses to us. Our contracts with international governments and local municipal transit agencies contain similar termination for convenience clauses, or we have a legally enforceable right to receive payment for costs incurred and a reasonable profit for products or services that do not have alternative uses to us.

For those contracts for which control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. For our design and build type contracts, we generally use the cost-to-cost measure of progress because it best depicts the transfer of control to the customer which occurs as we incur costs on our contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred. Contract costs include material, labor and subcontracting costs, as well as an allocation of indirect costs, and

are generally expensed as incurred for these contracts. For contracts with the U.S. 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.

Sales from performance obligations satisfied at a point in time are typically for standard goods and are recognized when the customer obtains control, which is generally upon delivery and acceptance. Costs of sales are recorded in the period in which revenue is recognized.

We record sales under cost-reimbursement-type contracts as we incur the costs. For cost-reimbursement type contracts with the U.S. government, the FAR provides guidance on the types of costs that we will be reimbursed in establishing the contract price.

Sales under service contracts are generally recognized as services are performed or value is provided to our customers. We measure the delivery of value to our customers using a number of metrics including ridership, units of work performed, and costs incurred. We determine which metric represents the most meaningful measure of value delivery based on the nature of the underlying service activities required under each individual contract. In certain circumstances we recognize revenue based on the right to bill when such amounts correspond to the value being delivered in a billing cycle. Certain of our transportation systems service contracts contain service level penalties or bonuses, which we recognize in each period incurred or earned. These contract penalties or bonuses are generally incurred or earned on a monthly basis; however, certain contracts may be based on a quarterly or annual evaluation. Sales under service contracts that do not contain measurable units of work performed are 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 service contracts are generally expensed as incurred.

Due to the nature of the work required to be performed on many of our performance obligations, the estimation of total revenue and cost at completion is complex, subject to many variables and requires significant judgment. It is common for our long-term contracts to contain bonuses, penalties, transactional variable based fees, or other provisions that can either increase or decrease the transaction price. These variable amounts generally are incurred or earned upon certain performance metrics, program milestones, transactional based activities and other similar contractual events. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current and forecasted) that is reasonably available to us.

Billing timetables and payment terms on our contracts vary based on a number of factors, including the contract type. Typical payment terms under fixed-price contracts to deliver complex systems provide that the customer pays either performance-based payments based on the achievement of contract milestones or progress payments based on a

percentage of costs we incur. For the majority of our service contracts, we generally bill on a monthly basis which corresponds with the satisfaction of our monthly performance obligation under these contracts. We recognize a liability for payments received in excess of revenue recognized, which is presented as a contract liability on the balance sheet. The portion of payments retained by the customer until final contract settlement is not considered a significant financing component because the intent is to protect the customer from our failure to adequately complete some or all of the obligations under the contract. Payments received from customers in advance of revenue recognition are not considered to be significant financing components because they are used to meet working capital demands that can be higher in the early stages of a contract. For certain of our multiple-element arrangements, the contract specifies that we will not be paid upon the delivery of certain performance obligations, but rather we will be paid when subsequent performance obligations are satisfied. Generally, in these cases we have determined that a separate financing component exists as a performance obligation under the contract. In these instances, we allocate a portion of the transaction price to this financing component. We determine the value of the embedded financing component by discounting the repayment of the financed amount over the implied repayment term using the effective interest method. This discounting methodology uses an implied interest rate which reflects the credit quality of the customer and represents an interest rate that would be similar to what we would offer the customer in a separate financing transaction. Unpaid principal and interest amounts associated with the financed performance obligation and the value of the embedded financing component are presented as long-term contracts financing receivables in our consolidated balance sheet. We recognize the allocated transaction price of the financing component as interest income over the implied financing term.

For fixed-price and cost-reimbursable contracts, we present revenues recognized in excess of billings as contract assets on the balance sheet. Amounts billed and due from our customers under both contract types are classified as receivables on the balance sheet.

We only include amounts representing contract change orders, claims or other items in the contract value when we believe the rights and obligations become enforceable. Contract modifications routinely occur to account for changes in contract specifications or requirements. In most cases, contract modifications are for goods or services that are not distinct and, therefore, are accounted for as part of the existing contract. Transaction price estimates include additional consideration for submitted contract modifications or claims when we believe there is an enforceable right to the modification or claim, the amount can be reliably estimated, and its realization is reasonably assured. Amounts representing modifications accounted for as part of the existing contract are included in the transaction price and recognized as an adjustment to sales on a cumulative catch-up basis.

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.

Contract Estimates: Use of the cost-to-cost or other similar methods of revenue recognition requires us to make reasonably dependable estimates regarding the revenue and cost associated with the design, manufacture and delivery of our products and services. Revisions or adjustments to estimates of the transaction price, estimated costs at completion and estimated profit or loss of a performance obligation are often required as work progresses under a contract, as experience is gained, as facts and circumstances change and as new information is obtained, even though the scope of work required under the contract may not change. Revisions or adjustments may also be required if contract modifications occur. The impact of revisions in profit or loss estimates are recognized on a cumulative catch-up basis in the period in which the revisions are made. The revisions in contract estimates, if significant, can materially affect our results of operations and cash flows, and in some cases result in liabilities to complete contracts in a loss position. The aggregate impact of net changes in contract estimates are presented in the table below (amounts in thousands).

	Three Mont	hs Ended	Six Months Ended		
	March 31,		March 31,		
	2019	2018	2019	2018	
Operating income (loss)	\$ (817)	\$ 311	\$ 308	\$ (2,178)	
Net income (loss) from continuing operations	(503)	268	292	(1,600)	
Diluted earnings per share	(0.02)	0.01	0.01	(0.06)	

Backlog: Backlog (i.e., unfulfilled or remaining performance obligations) represents the sales we expect to recognize for our products and services for which control has not yet transferred to the customer. It comprises both funded backlog (firm orders for which funding is authorized and appropriated) and unfunded backlog. Unexercised contract

options and indefinite delivery indefinite quantity (IDIQ) contracts are not included in backlog until the time the option or IDIQ task order is exercised or awarded. For our cost-reimbursable and fixed-priced-incentive contracts, the estimated consideration we expect to receive pursuant to the terms of the contract may exceed the contractual award amount. The estimated consideration is determined at the outset of the contract and is continuously reviewed throughout the contract period. In determining the estimated consideration, we consider the risks related to the technical, schedule and cost impacts to complete the contract and an estimate of any variable consideration. Periodically, we review these risks and may increase or decrease backlog accordingly As of March 31, 2019, our ending backlog was \$3.796 billion. We expect to recognize approximately 30% of our March 31, 2019 backlog over the next 12 months and approximately 45% over the next 24 months as revenue, with the remainder recognized thereafter.

Disaggregation of Revenue: See Note 14 for information regarding our sales by customer type, contract type and geographic region for each of our segments. We believe those categories best depict how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors.

Accounts Receivable: Receivables consist of billed amounts due from our customers. 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. We generally require minimal allowance for doubtful accounts for our customers, which amounted to \$1.7 million and \$1.3 million as of March 31, 2019 and September 30, 2018, respectively.

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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. Any inventoried costs in excess of estimated realizable value are immediately charged to cost of sales.

Contract Assets: Contract assets include unbilled amounts typically resulting from sales under contracts when the percentage-of-completion cost-to-cost method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer. The amounts may not exceed their estimated net realizable value. Contract assets are classified as current assets and, in accordance with industry practice, include amounts that may be billed and collected beyond one year due to the long-cycle nature of many of our contracts.

Long-term Capitalized Contract Costs: Through September 30, 2018, and prior to the adoption of ASC 606 long-term capitalized contract costs included costs incurred on contracts to develop and manufacture transportation systems for customers for which revenue recognition did not begin until the customers begin operating the systems. Upon adoption of ASC 606, revenue recognition and cost recognition are no longer deferred in these situations and therefore we no longer have long-term capitalized contract costs.

Contract Liabilities: Contract liabilities (formerly referred to as customer advances prior to the adoption of ASC 606) include advance payments and billings in excess of revenue recognized. Contract liabilities are classified as current liabilities based on our contract operating cycle and calculated on a contract-by-contract basis, net of revenue recognized, at the end of each reporting period.

Recently Adopted Accounting Pronouncements - Income Taxes

On December 22, 2017 the U.S. government enacted the "Tax Cuts and Jobs Act of 2017" (Tax Act). Due to the complexity of the Tax Act, the SEC issued guidance in SAB 118 which clarified the accounting for income taxes under ASC 740 if certain information was not yet available, prepared or analyzed in reasonable detail to complete the accounting for income tax effects of the Tax Act. SAB 118 provided for a measurement period of up to one year after the enactment of the Tax Act, during which time the required analyses and accounting must be completed. During fiscal year 2018, we recorded provisional amounts for the income tax effects of the changes in tax law and tax rates, as reasonable estimates were determined by management during this period. The SAB 118 measurement period subsequently ended on December 22, 2018. Although we no longer consider these amounts to be provisional, the determination of the Tax Act's income tax effects may change following future legislation or further interpretation of the Tax Act based on the publication of recently proposed U.S. Treasury regulations and guidance from the Internal Revenue Service and state tax authorities.

Recently Adopted Accounting Pronouncements - Other

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. ASU 2016-18 was adopted by us beginning October 1, 2018. The application of this accounting standard update did not impact financial results, but resulted in a retrospective change in the presentation of restricted cash, including the inclusion of our restricted cash balances within the beginning and ending amounts of cash and cash equivalents in our Statements of Cash Flows. In addition, changes in the total of cash, cash equivalents and restricted cash are now reflected in our Statements of Cash Flows for all periods presented.

Recent Accounting Pronouncements - Not Yet Adopted

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 and we have determined we will not adopt the new guidance early.

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 consolidated 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 August 2017, the FASB 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 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.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers, as amended (commonly referred to as ASC 606), which replaces numerous requirements in U.S. GAAP, including industry-specific requirements, and provides companies with a single revenue recognition model for recognizing revenue from contracts with customers and significantly expands the disclosure requirements for revenue arrangements. The new standard, as amended, was effective for us beginning on October 1, 2018.

As discussed in Note 1, we adopted ASC 606 using the modified retrospective transition method. Results for reporting periods beginning after September 30, 2018 are presented under ASC 606, while prior period comparative information has not been restated and continues to be reported in accordance with ASC 605, the accounting standard in effect for periods ending prior to October 1, 2018.

Based on contracts in process at September 30, 2018, upon adoption of ASC 606 we recorded a net increase to retained earnings of \$24.5 million, which includes the acceleration of net sales of approximately \$114.9 million and the related cost of sales of \$90.4 million. The adjustment to retained earnings primarily relates to multiple element transportation contracts that previously required the deferral of revenue and costs during the design and build phase, as the collection of all customer payments occurs during the subsequent operate and maintain phase. Under ASC 606, deferral of such revenue and costs is not required. In addition, the adjustment to retained earnings is attributed to contracts previously accounted for 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 ASC 605. In accordance with the modified retrospective transition provisions of ASC 606, we will not recognize any of the accelerated net sales and related cost of sales through October 1, 2018 in our Condensed Consolidated Statements of Operations for any historical or future period.

We made certain presentation changes to our Consolidated Balance Sheet on October 1, 2018 to comply with ASC 606. The component of accounts receivable that consisted of unbilled contract receivables as reported under ASC 605 has been reclassified as contract assets under ASC 606, after certain adjustments described below. The adoption of ASC 606 resulted in an increase in unbilled contract 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 resulted in an increase in unbilled eceivables 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. Advance payments and deferred revenue, previously primarily classified in customer advances, are now presented as contract liabilities.

The table below presents the cumulative effect of the changes made to our Condensed Consolidated Balance Sheet as of October 1, 2018 due to the adoption of ASC 606 (in thousands):

Adjustments 201 September	8
30, Due to As A	Adjusted ler ASC
2018 ASC 606 606	
ASSETS	
Current assets:	
	11,834
	74
	7,400
	0,000
	55,624
	72,210
Recoverable income taxes 91 — 99	
	1,688
	,177
	3,705
Total current assets 668,147 12,956 68	81,103
Long-term contracts receivables 6,134 (6,134) –	
Long-term contracts financing receivables — 56,228 50	6,228
Long-term contracts financing receivables in consolidated VIE — 38,990 38	8,990
Long-term capitalized contract costs 84,924 (84,924) –	
Long-term capitalized contract costs in consolidated VIE 1,258 (1,258) –	_
Property, plant and equipment, net 117,546 — 1	17,546
Deferred income taxes 4,713 389 5,	,102
	33,626
	3,533
	4,192
	10
Total assets \$ 1,304,883 \$ 16,247 \$ 1,	,321,130
LIABILITIES AND SHAREHOLDERS' EQUITY Current liabilities:	
Short-term borrowings \$ \$ \$	
÷	22,403
Trade accounts payable in consolidated VIE 165 — 16	65
Contract liabilities — 70,127 70	0,127
Customer advances 75,941 (75,941) –	_
Accrued compensation and other current liabilities 118,233 583 1	18,816
	,586
Total current liabilities328,339(8,242)32	20,097

Long-term debt Long-term debt in consolidated VIE Other long-term liabilities Other long-term liabilities in consolidated VIE	199,793 9,056 43,486 13		199,793 9,056 43,486 13
Shareholders' equity:			
Common stock	45,008		45,008
Retained earnings	801,834	19,834	821,668
Accumulated other comprehensive loss	(110,643)		(110,643)
Treasury stock at cost	(36,078)		(36,078)
Shareholders' equity related to Cubic	700,121	19,834	719,955
Noncontrolling interest in VIE	24,075	4,655	28,730
Total shareholders' equity	724,196	24,489	748,685
Total liabilities and shareholders' equity	\$ 1,304,883	\$ 16,247	\$ 1,321,130

The table below presents how the adoption of ASC 606 affected certain line items on our Condensed Consolidated Statements of Operations for the three and six months ended March 31, 2019 (in thousands):

	Three months ended March 31, 2019 As Reported		Six months ended March 3		51, 2019 As Reported	
	Under ASC 605	Effect of ASC 606	Under ASC 606	Under ASC 605	Effect of ASC 606	Under ASC 606
Net sales:	¢ 105 500	• • • • • • • • • • • • • • • • • • •	ф. 222 <i>7.1.1</i>	¢ 040 150	¢ 56 0 47	¢ 404.007
Products	\$ 195,588	\$ 27,156	\$ 222,744	\$ 348,150	\$ 56,847	\$ 404,997
Services	114,047 309,635	548 27,704	114,595 337,339	238,309 586,459	(708) 56,139	237,601 642,598
Costs and expenses:	509,055	27,704	557,559	560,459	50,159	042,398
Products	145,156	22,411	167,567	245,700	47,352	293,052
Services	82,212		82,212	174,997		174,997
Selling, general and	,		,	,		,
administrative expenses	66,295	(100)	66,195	129,118	63	129,181
Research and development	13,754		13,754	25,766		25,766
Amortization of purchased						
intangibles	12,395		12,395	22,960	—	22,960
Restructuring costs	1,757		1,757	3,749		3,749
	321,569	22,311	343,880	602,290	47,415	649,705
Operating loss	(11,934)	5,393	(6,541)	(15,831)	8,724	(7,107)
Other income (expenses):						
Interest and dividend income	74	1,339	1,413	130	2,517	2,647
Interest expense	(4,531)		(4,531)	(8,563)		(8,563)
Other income (expense), net	(3,602)		(3,602)	(8,355)		(8,355)
Loss from continuing operations before income						
taxes	(19,993)	6,732	(13,261)	(32,619)	11,241	(21,378)
Income tax benefit	(4,053)	222	(3,831)	(1,580)	246	(1,334)
Loss from continuing operations Net loss from discontinued	(15,940)	6,510	(9,430)	(31,039)	10,995	(20,044)
operations Net loss	(1,339) (17,279)	6,510	(1,339) (10,769)	(1,339) (32,378)	 10,995	(1,339) (21,383)
Less noncontrolling interest in loss of VIE	(3,885)	2,508	(1,377)	(9,866)	4,462	(5,404)
Net loss attributable to Cubic	\$ (13,394)	\$ 4,002	\$ (9,392)	\$ (22,512)	\$ 6,533	\$ (15,979)

(12,055) 4,002	(8,053)	(21,173)	6,533	(14,640)
(1,339) —	(1.339)	(1.339)		(1,339)
(13,394) \$ 4,002		\$ (22,512)	\$ 6,533	\$ (15,979)
(0.43) \$ 0.13	\$ (0.30)	\$ (0.75)	\$ 0.22	\$ (0.54)
(0.43) \$ 0.13	\$ (0.30)	\$ (0.75)	\$ 0.22	\$ (0.54)
	1,339) — 13,394) \$ 4,002 0.43) \$ 0.13	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,339)- $(1,339)$ $(1,339)$ - $13,394)$ \$ 4,002\$ (9,392)\$ (22,512)\$ 6,533 $0.43)$ \$ 0.13\$ (0.30)\$ (0.75)\$ 0.22

The table below quantifies the impact of adopting ASC 606 on segment net sales and operating income (loss) for the three and six months ended March 31, 2019 (in thousands):

	Three months ended March 31, 2019 As			Six months ended March 31, 2019 As		
	Under ASC 605	Effect of ASC 606	Reported Under ASC 606	Under ASC 605	Effect of ASC 606	Reported Under ASC 606
Sales:						
Cubic Transportation Systems	\$ 182,571	\$ 18,122	\$ 200,693	\$ 355,299	\$ 27,201	\$ 382,500
Cubic Mission Solutions	62,677	(742)	61,935	108,040	288	108,328
Cubic Global Defense Total sales	64,387 \$ 309,635	10,324 \$ 27,704	74,711 \$ 337,339	123,120 \$ 586,459	28,650 \$ 56,139	151,770 \$ 642,598
Operating income (loss):						
Cubic Transportation Systems	\$ 5,673	\$ 3,122	\$ 8,795	\$ 14,859	\$ 4,912	\$ 19,771
Cubic Mission Solutions	(7,911)	(512)	(8,423)	(13,232)	(131)	(13,363)
Cubic Global Defense	2,390	2,783	5,173	4,127	3,943	8,070
Unallocated corporate expenses	(12,086)		(12,086)	(21,585)	_	(21,585)
Total operating income	¢ (11.02.4)	¢ 5 202	ф. <i>(С. 5.</i> 4.1)	¢ (15.001)	¢ 0 70 4	ф (д 10 д)
(loss)	\$ (11,934)	\$ 5,393	\$ (6,541)	\$ (15,831)	\$ 8,724	\$ (7,107)
17						

The table below presents how the impact of the adoption of ASC 606 affected certain line items on our Condensed Consolidated Balance Sheet at March 31, 2019 (in thousands):

	Under ASC 605	Effect of ASC 606	As Reported Under ASC 606
ASSETS			
Current assets:			
Cash and cash equivalents	\$ 42,483	\$ —	\$ 42,483
Cash in consolidated VIE	362		362
Restricted cash	19,064		19,064
Restricted cash in consolidated VIE	9,967	<u> </u>	9,967
Accounts receivable, net	406,180	(248,648)	157,532
Contract assets		296,920	296,920
Recoverable income taxes	5,700	210	5,910
Inventories	153,035	(33,165)	119,870
Assets held for sale	12,620 44,471		12,620 44,471
Other current assets Other current assets in consolidated VIE	44,471		44,471 43
Total current assets	43 693,925	15,317	43 709,242
Total current assets	093,923	15,517	709,242
Long-term contracts receivables	3,474	(3,474)	
Long-term contracts financing receivables		41,758	41,758
Long-term contracts financing receivables in consolidated VIE		68,779	68,779
Long-term capitalized contract costs	109,318	(109,318)	
Long-term capitalized contract costs in consolidated VIE	1,846	(1,846)	
Property, plant and equipment, net	129,367		129,367
Deferred income taxes	4,563	235	4,798
Goodwill	579,648		579,648
Purchased intangibles, net	184,104		184,104
Other assets	14,290	—	14,290
Other noncurrent assets in consolidated VIE	1,114	—	1,114
Total assets	\$ 1,721,649	\$ 11,451	\$ 1,733,100
LIABILITIES AND SHAREHOLDERS' EQUITY Current liabilities:			
Short-term borrowings	\$ 209,000	\$ —	\$ 209,000
Trade accounts payable	132,040	(2,354)	129,686
Trade accounts payable in consolidated VIE	156		156
Contract liabilities		78,352	78,352
Customer advances	100,520	(100,520)	
Accrued compensation and other current liabilities	93,256		93,256
Accrued compensation and other current liabilities in			
consolidated VIE	204	—	204
Income taxes payable	2,234	456	2,690
Current portion of long-term debt	10,714		10,714

Total current liabilities	548,124	(24,066)	524,058
Long-term debt	189,095	_	189,095
Long-term debt in consolidated VIE	25,602		25,602
Other long-term liabilities	41,290		41,290
Other long-term liabilities in consolidated VIE	9,866		9,866
Shareholders' equity:			
Common stock	264,612		264,612
Retained earnings	775,102	26,384	801,486
Accumulated other comprehensive loss	(110,156)		(110,156)
Treasury stock at cost	(36,078)		(36,078)
Shareholders' equity related to Cubic	893,480	26,384	919,864
Noncontrolling interest in VIE	14,192	9,133	23,325
Total shareholders' equity	907,672	35,517	943,189
Total liabilities and shareholders' equity	\$ 1,721,649	\$ 11,451	\$ 1,733,100

Note 3 — Acquisitions and Divestitures

Sale of CGD Services

On April 18, 2018, we entered into a stock purchase agreement with the Purchaser, an entity affiliated with GC Valiant, LP, under which we agreed to sell our CGD Services business to the Purchaser. 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. Consequently, in the second quarter of fiscal 2018, we recognized a \$6.9 million loss within discontinued operations, which was calculated as the excess of the carrying value of the net assets of CGD Services less the estimated sales price in the stock purchase agreement less estimated selling costs.

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 the third quarter of fiscal 2018, we received \$133.8 million in connection with the sale and we recorded a receivable from the Purchaser for the estimated amount due related to the working capital settlement. The balance of this receivable was \$3.7 million at December 31, 2018. In the second quarter of fiscal 2019, we worked with the Purchaser and revised certain estimates related to the working capital settlement. In connection with the revision of these estimates, we reduced the receivable from the Purchaser by \$1.3 million and recognized a loss on the sale of CGD Services in the second quarter of fiscal 2019. Certain remaining working capital settlement estimates, primarily related to the fair value of accounts receivable, have not yet been settled with the Purchaser.

In addition to the amounts described above, 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. No amount has been recorded as a receivable related to the potential achievement of earn-out conditions based upon our assessment of the probability of achievement of the required conditions.

The operations and cash flows of CGD Services are reflected in our Consolidated Statements of Operations and Consolidated Statements of Cash Flows as discontinued operations through May 31, 2018, the date of the sale. The following table presents the composition of net income from discontinued operations, net of taxes for the three- and six-month periods ended March 31, 2019 and March 31, 2018 (in thousands).

Three Months Ended March 31,

Six Months Ended March 31,

	2019	2018	2019	2018
Net sales	\$ —	\$ 98,068	\$ —	\$ 190,361
Costs and expenses:				
Cost of sales		87,562	—	170,682
Selling, general and administrative expenses		3,876		7,543
Amortization of purchased intangibles		489		1,097
Restructuring costs		7		7
Other income		(8)		(13)
Earnings from discontinued operations before income				
taxes		6,142		11,045
Net loss on sale	1,339	6,900	1,339	6,900
Income tax provision	—	(2,093)	—	1,161
Net income (loss) from discontinued operations	\$ (1,339)	\$ 1,335	\$ (1,339)	\$ 2,984

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.

Nuvotronics, Inc.

In March 2019, we acquired all of the outstanding capital stock of Nuvotronics, Inc. (Nuvotronics), a provider of microfabricated radio frequency (RF) products. Based in Durham, North Carolina, Nuvotronics' patented PolyStrata technology enables the design and production of uniquely packaged RF devices, such as antennas, filters, and combiners, all of which are components in Cubic's advanced technology product offerings. Nuvotronics is expected to provide synergies from combining its capabilities with our existing CMS business.

Nuvotronics' sales and results of operations included in our operating results were as follows (in millions):

	Three Mon	ths	Six Months	5
	Ended		Ended	
	March 31,		March 31,	
	2019	2018	2019	2018
Sales	\$ 0.7	\$ —	\$ 0.7	\$ —
Operating loss	(1.7)		(1.7)	
Net loss after taxes	(1.7)	—	(1.7)	

Nuvotronics' operating results above included the following amounts (in millions):

	Three Months		Six Months	
	Ended		Ended	
	March 3	1,	March 3	31,
	2019	2018	2019	2018
Amortization	\$ 0.1	\$ —	\$ 0.1	\$ —
Acquisition-related expenses	1.8		1.8	

The acquisition-date fair value of consideration is \$66.2 million, which is comprised of net cash paid of \$61.5 million, plus the estimated fair value of contingent consideration of \$4.9 million, less a \$0.2 million receivable due from the sellers for the difference between the net working capital acquired and the targeted working capital amounts. The acquisition was financed primarily with proceeds from draws on our line of credit. Under the purchase agreement, we will pay the sellers up to \$8.0 million of contingent consideration if Nuvotronics meets certain gross profit goals for the 12-month periods ended December 31, 2020 and December 31, 2021. 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 following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Technology	\$ 23.0
Trade name	1.5
Backlog	1.4
Non-compete agreements	0.7
Customer relationships	0.6
Accounts receivable	3.0
Fixed assets	2.7
Accounts payable and accrued expenses	(2.4)
Deferred taxes	(3.5)
Other net assets acquired (liabilities assumed)	(0.6)
Net identifiable assets acquired	26.4
Goodwill	39.8
Net assets acquired	\$ 66.2

The estimated fair values of assets acquired and liabilities assumed, including purchased intangibles are preliminary estimates pending the finalization of our valuation analyses and the receipt of further information from the seller regarding its assets and liabilities. 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 trade name valuation

used the relief from royalty method, the customer relationships valuation used the with-and-without valuation method, and the technology and backlog valuations used the excess earnings method.

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

The goodwill resulting from the acquisition consists primarily of the synergies expected from combining the operations of Nuvotronics with our existing CMS business, and strengthening our capability of developing and integrating products 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 not expected to be deductible for tax purposes.

The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of Nuvotronics is as follows (in millions):

Year Ended	
September 30,	
2019	\$ 1.3
2020	4.1
2021	3.0
2022	3.0
2023	2.9
Thereafter	12.9

GRIDSMART Technologies, Inc.

In January 2019, we acquired all of the outstanding capital stock of GRIDSMART Technologies, Inc. (GRIDSMART), a provider of differentiated video tracking to the Intelligent Traffic Systems (ITS) market. Based in Knoxville, Tennessee, GRIDSMART specializes in video detection at the intersection utilizing advanced image processing, computer vision modeling and machine learning along with a single camera solution providing best-in-class data for optimizing the flow of people and traffic through intersections. GRIDSMART is expected to provide synergies from combining its capabilities with our existing CTS business.

GRIDSMART's sales and results of operations included in our operating results were as follows (in millions):

	Three Mon	ths	Six Month	S
	Ended		Ended	
	March 31,		March 31,	
	2019	2018	2019	2018
Sales	\$ 6.3	\$ —	\$ 6.3	\$ —
Operating loss	(2.0)		(2.0)	
Net loss after taxes	(2.0)		(2.0)	

GRIDSMART's operating results above included the following amounts (in millions):

	Three Months		Six Months	
	Ended		Ended	
	March 3	31,	March	31,
	2019	2018	2019	2018
Amortization	\$ 1.4	\$ —	\$ 1.4	\$ —
Acquisition-related expenses	1.8		1.8	—

The acquisition-date fair value of consideration is \$86.8 million, which is comprised of net cash paid of \$87.2 million less a \$0.4 million receivable due from the sellers for the difference between the net working capital acquired and the targeted working capital amounts. The acquisition was financed primarily with proceeds from draws on our line of credit.

The following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Tashaalaan	¢	25 7
Technology	Ф	25.7
Customer relationships		3.6
Trade name		2.4
Inventory		4.3
Accounts receivable		1.7
Accounts payable and accrued expenses		(2.5)
Deferred taxes		(3.9)
Other net assets acquired		0.5
Net identifiable assets acquired		31.8
Goodwill		55.0
Net assets acquired	\$	86.8

The estimated fair values of assets acquired and liabilities assumed, including purchased intangibles, are preliminary estimates pending the finalization of our valuation analyses, including the filing of pre-acquisition income tax returns. 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 trade name valuation used the relief from royalty method, the customer relationships valuation used the with-and-without valuation method, and the technology and backlog valuations used the excess earnings method.

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

The goodwill resulting from the acquisition consists primarily of the synergies expected from combining the operations of GRIDSMART with our existing CTS business, and strengthening our capability of developing and integrating products in our CTS 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 CTS segment and 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 GRIDSMART is as follows (in millions):

Year Ended	
September 30,	
2019	\$ 4.0
2020	5.3
2021	3.9
2022	3.5
2023	3.5
Thereafter	11.5

Advanced Traffic Solutions Inc.

In 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. Trafficware provides a fully integrated suite of software, Internet of Things devices, and hardware solutions that optimize the flow of motorist and pedestrian traffic. Trafficware is expected to provide synergies from combining its capabilities with our existing CTS business.

Trafficware's sales and results of operations included in our operating results were as follows (in millions):

	Three Mon	ths	Six Month	S
	Ended		Ended	
	March 31,		March 31,	
	2019	2018	2019	2018
Sales	\$ 11.7	\$ —	\$ 22.2	\$ —
Operating loss	(5.2)		(8.5)	_
Net loss after taxes	(5.2)		(8.5)	_

Trafficware's operating results above included the following amounts (in millions):

	Three Months		Six Months	
	Ended		Ended	
	March 3	1,	March 3	31,
	2019	2018	2019	2018
Amortization	\$ 5.3	\$ —	\$ 9.6	\$ —
Acquisition-related expenses	2.1		3.5	

The acquisition-date fair value of consideration is \$237.6 million, which is comprised of net cash paid of \$239.2 million less a \$1.6 million receivable due from the sellers for the difference between the net working capital acquired and the targeted working capital amounts. The acquisition was financed primarily with proceeds from draws on our line of credit.

The following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in millions):

Technology	\$ 43.3
Customer relationships	21.9
Backlog	4.8
Trade name	4.6
Accounts receivable	10.4
Inventory	9.9
Accounts payable and accrued expenses	(6.6)
Other net assets acquired (liabilities assumed)	(1.9)
Net identifiable assets acquired	86.4
Goodwill	151.2
Net assets acquired	\$ 237.6

The estimated fair values of assets acquired and liabilities assumed, including purchased intangibles, are preliminary estimates pending the finalization of our valuation analyses and the filing of pre-acquisition income tax returns. 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 trade name valuation used the relief from royalty method, the customer relationships valuation used the with-and-without valuation method, and the technology and backlog valuations used the excess earnings method.

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

The goodwill resulting from the acquisition consists primarily of the synergies expected from combining the operations of Trafficware with our existing CTS business, and strengthening our capability of developing and integrating products in our CTS 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 CTS segment and 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 Trafficware is as follows (in millions):

Year Ended	
September 30,	
2019	\$ 15.3
2020	11.4
2021	11.4
2022	11.4
2023	6.4
Thereafter	18.8

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 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.

Shield's sales and results of operations included in our operating results were as follows (in millions):

	Three Mon	ths	Six Months	S
	Ended		Ended	
	March 31,		March 31,	
	2019	2018	2019	2018
Sales	\$ —	\$ —	\$ —	\$ —
Operating loss	(1.9)		(2.8)	
Net loss after taxes	(1.9)		(2.8)	

Shield's operating results above included the following amounts (in millions):

	Three Months		Six Months	
	Ended		Ended	
	March 3	31,	March 3	31,
	2019	2018	2019	2018
Amortization	\$ 0.2	\$ —	\$ 0.4	\$ —
Acquisition-related expenses	0.3		0.3	

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 technology asset valuation used the excess earnings approach and is being amortized using the straight-line method over eight years, which is based on the expected period of cash flows that will be generated by the asset.

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.

The estimated amortization expense related to the intangible assets recorded in connection with our acquisition of Shield 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	2.1

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 since its consolidation in our financial statements were as follows (in millions):

	Three Months Ended		Six Months Ended	
	March 31,		March 31,	
	2019	2018	2019	2018
Sales	\$ 0.2	\$ 0.1	\$ 0.4	\$ 0.1
Operating loss	(0.2)	(0.2)	(0.6)	(0.2)
Net loss after taxes	(0.2)	(0.2)	(0.6)	(0.2)

MotionDSP's operating results above included the following amounts (in millions):

	Three Months		Six Months	
	Ended		Ended	
	March 31,		March 31,	
	2019	2018	2019	2018
Amortization	\$ 0.2	\$ 0.1	\$ 0.4	\$ 0.1
Acquisition-related expenses	0.1	0.4	0.2	0.6

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):

\$ 0.2
4.5
0.1
(0.3)
(0.8)
(0.9)
2.8
6.7
\$ 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 is as follows (in millions):

\$ 0.7
0.7
0.7
0.7
0.7
0.8

Pro forma information

The following unaudited pro forma information presents our consolidated results of operations as if Nuvotronics, GRIDSMART, Trafficware, Shield, and MotionDSP had been included in our consolidated results since October 1, 2017 (in millions):

Three Months EndedSix Months EndedMarch 31,March 31,

Net sales	2019	2018	2019	2018
	\$ 340.0	\$ 300.1	\$656.9	\$ 569.0
Net loss	\$ (9.2)	\$ (7.4)	\$ (18.3)	\$ (25.0)

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, 2017, and it does not purport to project our future operating results.

Goodwill

Changes in goodwill for the six months ended March 31, 2019 were as follows for each of our reporting units (in thousands):

	Cubic Transportation Systems	Cubic Mission Solutions	Cubic Global Defense	Total
Net balances at September 30, 2018 Acquisitions Foreign currency exchange rate changes Net balances at March 31, 2019	\$ 49,786 206,106 9 \$ 255,901	\$ 138,127 39,827 \$ 177,954	\$ 145,713 	\$ 333,626 245,933 89 \$ 579,648

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. 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 determined would be recorded in the current period.

Our most recent annual goodwill impairment test was our 2018 annual impairment test completed as of July 1, 2018. 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 values of our CGD and CMS reporting units each exceeded their respective carrying values by over 40%. Subsequent to the effective dates of the tests for each of our reporting units, we do not believe that circumstances have occurred that indicate that an impairment for any of our reporting units is more-likely-than-not. As such, no subsequent interim impairment tests have been performed.

Note 4 - 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 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 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 Cubic. 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 fixed payments of \$558.5 million, adjusted for incremental transaction-based fees, inflation, and performance penalties, 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 Cubic by OpCo. Cubic will receive fixed payments of \$427.6 million, adjusted for incremental transaction-based fees, inflation, and performance penalties, 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, Cubic issued a letter of credit for \$2.7 million to HoldCo in accordance with Cubic's equity funding responsibilities. HoldCo is able to draw on the Cubic letter of credit in certain liquidity instances, but no amounts have been drawn on this letter of credit as of March 31, 2019.

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 March 31, 2019, the outstanding balance on the long-term debt facility was \$25.6 million, which is presented net of unamortized deferred financing costs of \$8.8 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.

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 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 March 31, 2019, the outstanding notional principal amounts on open interest rate swaps were \$89.0 million. The fair value of OpCo's interest rate swaps at March 31, 2019 was \$9.9 million and is recorded as a liability in other long-term liabilities in our Consolidated Balance Sheets. OpCo's interest rate swaps were not designated as effective hedges at March 31, 2019 and as such any unrealized gains/losses are included in other income (expense), net. Unrealized losses as a result of changes in the fair value of OpCo's interest rate swaps were \$3.8 million and \$9.9 million for the three and six months ended March 31, 2019, respectively. See Note 13 for a description of the measurement of fair value of derivative financial instruments, including OpCo's interest rate swaps.

OpCo holds a 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 consolidated into our Condensed Consolidated Balance Sheets at March 31, 2019 and September 30, 2018 are as follows:

		September
	March 31,	30,
	2019	2018
	(in thousand	s)
Cash	\$ 362	\$ 374
Restricted cash	9,967	10,000
Other current assets	43	
Long-term capitalized contract costs		33,818
Long-term contracts financing receivable	68,779	
Other noncurrent assets	1,114	810
Total assets	\$ 80,265	\$ 45,002
Trade accounts payable	\$ 156	\$ 165
Accrued compensation and other current liabilities	204	
Due to Cubic	21,226	11,724
Other long-term liabilities	9,866	13
Long-term debt	25,602	9,056
Total liabilities	\$ 57,054	\$ 20,958
Total Cubic equity	(114)	(304)
Noncontrolling interests	23,325	24,348
Total liabilities and owners' equity	\$ 80,265	\$ 45,002

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.

Prior to the adoption of ASC 606, Cubic and OpCo were precluded from recognizing revenue on the MBTA Contract because MBTA was not required to make payments to OpCo until the operate and maintain phase of the contract began. During this time period Cubic and OpCo were capitalizing costs associated with designing and building the system for MBTA. Upon the adoption of ASC 606, Cubic and OpCo are now permitted to recognize revenue related to the MBTA contract and therefore costs are now recognized as incurred and are no longer capitalized.

The revenue, operating income, and other income (expense), net of OpCo that are included in our Condensed Consolidated Statements of Operations are as follows:

	Three Month	S		
	Ended		Six Months	Ended
	March 31,		March 31,	
	2019	2018	2019	2018
Revenue	\$ 2,325	\$ —	\$ 4,286	\$ —
Operating income	2,030		3,698	
Other income (expense), net	(3,720)	—	(9,853)	
Interest income	757		1,260	
Interest expense	(598)	—	(1,110)	

Note 5 — Net Income (Loss) Per Share

Basic net income (loss) per share (EPS) is computed by dividing the net income (loss) attributable to Cubic for the period by the weighted average number of common shares outstanding during the period, including vested restricted stock units (RSUs).

In periods with a net income from continuing operations attributable to Cubic, 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 restricted stock units. Dilutive restricted stock units 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 attributable to Cubic, 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 loss per common share were as follows (in thousands):

	Three Mon March 31,	ths Ended	Six Months Ended March 31,		
	2019	2018	2019	2018	
Weighted average shares - basic Effect of dilutive securities	31,150	27,223	29,821	27,215	
Weighted average shares - diluted	31,150	27,223	29,821	27,215	
Number of anti-dilutive securities	976	1,029	988	1,033	

Note 6 — Contract Assets and Liabilities

Contract assets include unbilled amounts typically resulting from sales under contracts when the percentage-of-completion cost-to-cost method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer. Contract liabilities (formerly referred to as customer advances prior to the adoption of ASC 606) include advance payments and billings in excess of revenue recognized. Contract assets and contract liabilities were as follows (in thousands):

	March 31, 2019	October 1, 2018
Contract assets	\$ 296,920	\$ 272,210
Contract liabilities	\$ 78,352	\$ 70,128

Contract assets increased \$24.7 million during the six months ended March 31, 2019, primarily due to the recognition of revenue related to the satisfaction or partial satisfaction of performance obligations during the six months ended March 31, 2019 for which we have not yet billed. There were no significant impairment losses related to our contract assets during the six months ended March 31, 2019 and 2018.

Contract liabilities increased \$8.2 million during the six months ended March 31, 2019, primarily due to payments received in excess of revenue recognized on these performance obligations. During the three and six months ended March 31, 2019, we recognized \$14.1 million and \$34.8 million, respectively, of our contract liabilities at October 1, 2018 as revenue. We expect our contract liabilities to be recognized as revenue over the next twelve months.

Note 7 — Balance Sheet Details

Accounts Receivable

The components of accounts receivable are as follows (in thousands):

March 31, 2019	September 30, 2018
\$ 159,246	\$ 156,948
	242,877
(1,714)	(1,324)
157,532	398,501
	(6,134)
\$ 157,532	\$ 392,367
	2019 \$ 159,246

Inventories

Inventories consist of the following (in thousands):

	March 31, 2019	September 30, 2018
Finished products	\$ 14,405	\$ 7,099
Work in process and inventoried costs under long-term contracts	62,172	63,169
Materials and purchased parts	43,293	23,710
Customer advances		(9,779)
Net inventories	\$ 119,870	\$ 84,199

At March 31, 2019, work in process and inventoried costs under long-term contracts includes approximately \$1.4 million in costs incurred outside the scope of work or in advance of a contract award compared to \$0.9 million at September 30, 2018. We believe it is probable that we will recover the costs inventoried at March 31, 2019, plus a

profit margin, under contract change orders or awards within the next year.

Capitalized Software

We capitalize certain costs associated with the development or purchase of internal-use software. The amounts capitalized are included in property, plant and equipment in our Condensed Consolidated Balance Sheets 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.

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. Various components of our ERP system became ready for their intended use and were placed into service in phases from fiscal 2016 through fiscal 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.

Excluding businesses that we acquired in fiscal 2019, we completed the planned implementation of our ERP system in the fourth quarter of fiscal 2018. We continue to capitalize costs associated with the development of certain ERP features and upgrades that are not yet ready for their intended use. We capitalized costs related to ERP components in development totaling \$0.1 million and \$0.6 million for the three- and six-month periods ended March 31, 2019, respectively, and \$2.0 million and \$4.6 million for the three- and six-month periods ended March 31, 2018, respectively.

In addition to software costs that were capitalized, during the three- and six-months periods ended March 31, 2019, we recognized expenses related to the development and implementation of our ERP system of \$0.2 million and \$1.0 million,

respectively, compared to \$4.0 million and \$10.3 million during the three- and six-month periods ended March 31, 2018, respectively, for costs that did not meet the requirements for capitalization. Amounts that were expensed in connection with the development and implementation of these systems are classified within selling, general and administrative expenses in the Condensed Consolidated Statements of Operations.

Deferred Compensation Plan

We have a non-qualified deferred compensation plan offered to a select group of highly compensated employees. The plan provides participants with the opportunity to defer a portion of their compensation in a given plan year. The liabilities associated with the non-qualified deferred compensation plan are included in other long-term liabilities in our Condensed Consolidated Balance Sheets and totaled \$11.5 million at March 31, 2019 and at September 30, 2018.

We have made contributions to a rabbi trust to provide a source of funds for satisfying a portion of these deferred compensation liabilities. The carrying values of assets set aside to fund deferred compensation liabilities totaled \$6.4 million at March 31, 2019 and at September 30, 2018 and were comprised entirely of life insurance contracts. The carrying value of the life insurance contracts is based on the cash surrender value of the policies. Changes in the carrying value of the deferred compensation liability, and changes in the carrying value of the assets held in the rabbi trust are reflected in our Condensed Consolidated Statements of Operations.

Note 8 — 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):

	March 31, 2019 Level 1Level 2	Level 3	Total	September Level 1	r 30, 2018 Level 2	Level 3	Total
Assets							
Cash equivalents	\$ \$	\$ —	\$ —	\$ 9,000	\$ —	\$ —	\$ 9,000
Current derivative							
assets	— 2,727		2,727		1,803		1,803
Noncurrent	,		,		,		,
derivative assets	— 325		325		314		314
Total assets	020		520		511		011
measured at fair							
value	\$ \$ 3,052	\$ —	\$ 3,052	\$ 9,000	\$ 2,117	\$ —	\$ 11,117
Liabilities	s = s 3,032	φ —	\$ 3,052	\$ 9,000	\$ 2,117	φ —	φ 11,117
Current derivative	1 460		1 460		1 (57		1 (57
liabilities	— 1,460		1,460		1,657		1,657
Noncurrent							
derivative liabilities					75		75
Contingent							
consideration to							
seller of Deltenna		1,424	1,424			1,081	1,081
Contingent							
consideration to							
seller of Shield		5,912	5,912			5,618	5,618
Contingent							
consideration to							
seller of TeraLogics							
- revenue targets						1,750	1,750
Contingent						1,700	1,700
consideration to							
seller of H4 Global		313	313			665	665
Contingent		515	515			005	005
consideration to							
seller of							
		1.000	4.000				
Nuvotronics		4,900	4,900				
Total liabilities							
measured at fair							
value	\$ \$ 1,460	\$ 12,549	\$ 14,009	\$ —	\$ 1,732	\$ 9,114	\$ 10,846

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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 is based upon a discounted cash flow model and approximate cost. 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.

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.

At March 31, 2019, we have the following remaining contingent consideration arrangements with the sellers of companies which we acquired:

- H4 Global: Payment of up to \$3.0 million of contingent consideration based upon the value of contracts entered into over the five-year period ending September 30, 2020.
- Deltenna: Payments of up to \$7.1 million of contingent consideration if Deltenna meets certain sales goals from the date of acquisition through the year ending September 30, 2022.
- Shield: Payments of up to \$10.0 million of contingent consideration if Shield meets certain sales goals from the date of acquisition through July 31, 2025.
- Nuvotronics: Payments of up to \$8.0 million of contingent consideration if Nuvotronics meets certain gross profit goals for the 12-month periods ended December 31, 2020 and December 31, 2021.

In addition, we have a contingent consideration arrangement with the Purchaser of our CGD Services business under which we are eligible to receive a cash payment of \$3.0 million if the Purchaser is awarded certain government contracts in the future.

The fair value of Deltenna contingent consideration was valued using the 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 was 40% as of March 31, 2019 and 53% as of September 30, 2018. The risk-free rate was selected based on the quoted yields for U.S. Treasury securities with terms matching the earn-out payment period.

The maximum remaining payout to the sellers of H4 Global is \$3.0 million at March 31, 2019, 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 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 1,000,000 simulation trials. Key inputs for the simulation include projected revenues, assumed discount rates for projected revenues and cash flows, and volatility. The volatility and revenue risk adjustment factors were determined based on analysis of publicly traded comparable companies and as of March 31, 2019 were 20.0% and 13.1%, respectively, and as of September 30, 2018 were 20.0% and 14.5%, respectively. The discount rate used was based on our expected borrowing rate under our financing arrangements, which was determined to be 4.0% at March 31, 2019 and 3.9% at September 30, 2018.

The fair value of the Nuvotronics contingent consideration was estimated based on Monte Carlo simulations. Under the purchase agreement, we will pay the sellers up to \$8.0 million if Nuvotronics meets certain gross profit goals for the 12- month periods ended December 31, 2020 and December 31, 2021. The fair value of the contingent consideration was

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determined based upon a probability distribution of values based on 1,000,000 simulation trials. Key inputs for the simulation include projected gross profits, assumed discount rates for projected gross profits, and gross profit volatility. The volatility factor used as of March 31, 2019 was 13.7% and was determined based on analysis of publicly traded comparable companies. The discount rate used as of March 31, 2019 was 8.4%, which was based on our risk-free rate of return adjusted for our gross profit required risk premium.

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

As of March 31, 2019, the following table summarizes the change in fair value of our Level 3 contingent consideration liabilities (in thousands):

	H4 Global	TeraLogics (Revenue Targets)	Deltenna	Shield	Nuvotronics	Total
Net balances at September 30,						
2018	\$ 665	\$ 1,750	\$ 1,081	\$ 5,618	\$ —	\$ 9,114
Initial measurement recognized						
at acquisition					4,900	4,900
Cash paid to seller	(385)	(1,750)			—	(2,135)
Total remeasurement loss						
recognized in earnings	33		343	294		670
Balance as of March 31, 2019	\$ 313	\$ —	\$ 1,424	\$ 5,912	\$ 4,900	\$ 12,549

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):

	March	September
	31,	30,
	2019	2018
Fair value	\$ 197.2	\$ 193.7
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 the first half of fiscal 2019 or 2018 other than assets and liabilities acquired in business acquisitions described in Note 3 and the restricted stock units that were granted in the first quarter of fiscal 2019 that contain performance and market-based vesting criteria described in Note 11.

Note 9 — Financing Arrangements

In December 2018, we completed an underwritten public offering of 3,300,000 shares of our common stock. We granted the underwriters a 30-day option to purchase up to an additional 495,000 shares of common stock. In December 2018, the underwriters exercised their option to purchase the additional 495,000 shares. All shares were offered by us at a price to the public of \$60.00 per share. Net proceeds were \$215.8 million, after deducting underwriting discounts and commissions and offering expenses of \$11.9 million. We used the net proceeds to repay a portion of our outstanding borrowings under our revolving credit agreement which was used to finance the acquisition of Trafficware and general corporate purposes.

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 coordination with the revision and expansion of the revolving credit agreement as discussed below in order to increase our leverage capacity. The interest rates on all of the term notes described above may be adjusted upwards by up to 0.75% should our leverage ratio exceed certain levels.

As of March 31, 2019, we had a committed revolving credit agreement with a group of financial institutions in the amount of \$400.0 million which was scheduled to expire in August 2021 (Revolving Credit Agreement). At March 31, 2019, the weighted average interest rate on outstanding borrowings under the Revolving Credit Agreement was 3.95%. Debt issuance and modification costs of \$2.3 million and \$1.3 million were incurred in connection with February 2, 2016 and August 11, 2016 amendments to the Revolving Credit Agreement, respectively. Costs incurred in connection with establishment of and amendments to this credit agreement are recorded in other assets on our Condensed 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 March 31, 2019, our total debt issuance costs have an unamortized balance of \$1.6 million. The available line of credit is reduced by any letters of credit issued under the Revolving Credit Agreement. As of March 31, 2019, there were \$209.0 million of borrowings under this agreement and there were letters of credit outstanding totaling \$31.2 million, which reduce the available line of credit to \$159.8 million. The \$31.2 million of letters of credit includes both financial letters of credit and performance guarantees.

In late April 2019, we executed the Fourth Amended and Restated Credit Agreement, which amended and restated the prior revolving credit agreement to increase the permitted borrowings to \$800.0 million, extend the maturity to April 30, 2024, add seven new financial institutions to the group of creditors, and amend certain terms and covenants. Borrowings under the agreement bear a variable rate of interest which is calculated based upon the U.S. Dollar LIBOR rate plus a contractually defined credit spread that is based upon the tenor of the specific borrowing.

We maintain a cash account with a bank in the United Kingdom 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 March 31, 2019 was \$19.1 million and is classified as restricted cash in our Condensed Consolidated Balance Sheets.

As of March 31, 2019, we had letters of credit and bank guarantees outstanding totaling \$40.8 million, which includes the \$31.2 million of letters of credit on the Revolving Credit Agreement above and \$9.6 million of letters of credit issued under other facilities. The total of \$40.8 million of letters of credit and bank guarantees includes \$35.3 million that guarantees either our performance or customer advances under certain contracts and financial letters of credit of \$5.5 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.

We have entered into a short-term borrowing arrangement in the United Kingdom in the amount of £20.0 million British pounds (equivalent to approximately \$25.9 million) to help meet the short-term working capital requirements of our subsidiary. At March 31, 2019, no amounts were outstanding under this borrowing arrangement.

The terms of certain of our lending and credit agreements include provisions that require and/or limit, among other financial ratios and measurements, the permitted levels of debt, coverage of cash interest expense, and under certain circumstances, payments of dividends or other distributions to shareholders. As of March 31, 2019, these agreements have no restrictions on distributions to shareholders, subject to certain tests in these agreements.

Our self-insurance arrangements are limited to certain workers' compensation plans, automobile liability and product liability claims. Under these arrangements, we self-insure only up to the amount of a specified deductible for each claim. Self-insurance liabilities included in other current liabilities on the balance sheet amounted to \$8.3 million at March 31, 2019 and \$8.6 million at September 30, 2018.

Note 10 — Pension Plans

The components of net periodic pension cost (benefit) are as follows (in thousands):

	Three Months Ended		Six Months I	Ended
	March 31,		March 31,	
	2019	2018	2019	2018
Service cost	\$ 150	\$ 155	\$ 299	\$ 306
Interest cost	1,921	1,901	3,831	3,781
Expected return on plan assets	(3,034)	(3,570)	(6,043)	(7,095)
Amortization of actuarial loss	534	706	1,062	1,398
Administrative expenses	97	110	194	220
Net pension cost (benefit)	\$ (332)	\$ (698)	\$ (657)	\$ (1,390)

Note 11 - Stockholders' Equity

Long-Term Equity Incentive Plan

In 2013, the Executive Compensation Committee of the Board of Directors (Compensation Committee) approved a long-term equity incentive award program. To date, the Compensation Committee has approved three general categories of grant awards: RSUs with time-based vesting, RSUs with performance-based vesting, and RSUs with performance and market-based vesting. Through March 31, 2019, the Compensation Committee has granted 1,307,912 RSUs with time-based vesting, 1,173,766 RSUs with performance-based vesting, and 219,890 RSUs with performance and market-based vesting under this program.

Each RSU with time-based vesting or performance-based vesting represents a contingent right to receive one share of our common stock. Each RSU with performance and market-based vesting represents a contingent right to receive up to 1.25 shares of our common stock. Dividend equivalent rights accrue with respect to the RSUs when and as dividends are paid on our common stock and vest proportionately with the RSUs to which they relate. Vested shares are delivered to the recipient following each vesting date.

The RSUs granted with time-based vesting generally vest in four equal installments on each of the four October 1 dates following the grant date, subject to the recipient's continued service through such vesting date.

The performance-based RSUs granted to participants vest over three-year performance periods based on Cubic's achievement of performance goals established by the Compensation Committee over the performance periods, subject to the recipient's continued service through the end of the respective performance periods. For the performance-based RSUs granted prior to September 30, 2018, the vesting is contingent upon Cubic meeting one of three types of vesting criteria over the performance period, including revenue growth targets, earnings growth targets, and return on equity targets. The level at which Cubic performs against scalable targets over the performance periods will determine the percentage of the RSUs that will ultimately vest.

In fiscal 2019, the Compensation Committee granted RSUs with performance and market-based vesting criteria. The performance and market-based RSUs granted to participants vest over three-year performance periods based on Cubic's achievement of revenue growth targets and earnings growth targets subject to the recipient's continued service through the end of the respective performance periods. The level at which Cubic performs against scalable targets over the performance periods impact the percentage of the RSUs that will ultimately vest. For these RSUs, Cubic's relative total stock return (TSR) as compared to the Russell 2000 Index (Index) over the performance period will result in a multiplier for the number of RSUs that will vest. If the TSR performance exceeds the performance of the Index based on a scale established by the Compensation Committee, the multiplier will result in up to an additional 25% of RSUs vesting at the end of the performance period. If the TSR performance is below the performance of the Index based on a scale established by the Compensation Committee, the multiplier could result in a reduction of up to 25% of these RSUs vesting at the end of the performance period.

The grant date fair value of each RSU with time-based vesting or performance-based vesting is the fair market value of one share of our common stock at the grant date.

The grant date fair value of each RSU with performance and market-based vesting was calculated using a Monte Carlo simulation valuation method. Under this method, the prices of the Index and our common stock were simulated through the end of the performance period. The correlation matrix between our common stock and the index as well as our stock and the Index's return volatilities were developed based upon an analysis of historical data. The following table includes the assumptions used for the valuation of the RSUs with performance and market-based vesting that were granted during fiscal 2019:

Date of grant Closing average share value (mean) Performance period begins Performance period ends Risk-free interest rate Expected volatility RSU's granted during the six months ended March 31, 2019

November 21, 2018 \$68.56 October 1, 2018 September 30, 2021 2.8% 34%

As a result of the valuation analysis, the fair value of the RSUs with performance and market-based vesting granted in the first six months of fiscal 2019 was calculated at \$67.40 per RSU.

At March 31, 2019, the total number of unvested RSUs that are ultimately expected to vest, after consideration of expected forfeitures and estimated vesting of performance-based RSUs, is 351,563 RSUs with time-based vesting, 115,252 RSUs with performance-based vesting, and 156,012 RSUs with performance and market-based vesting.

The following table summarizes our RSU activity:

	Unvested Restricted Stock Units			
	Weighted-Average			
	Grant-Date Fair			
	Number of Shares	Value		
Unvested at September 30, 2018	366,460	\$	52.31	
Granted	217,385		63.63	
Vested	(131,990)		50.43	
Forfeited	(22,446)		52.53	
Unvested at March 31, 2019	429,409	\$	58.60	

	Unvested Restricted Stock Units with			
	Performance Based Vesting			
	Weighted-Average			
		Grant-Date Fair		
	Number of Shares	Value		
Unvested at September 30, 2018	635,628	\$	50.11	
Granted	—			
Vested	—			
Forfeited	(308,111)		44.22	
Unvested at March 31, 2019	327,517	\$	55.65	

	Unvested Restricted Stock Units with				
	Performance and Market Based Vesting				
	Weighted-Average				
		Grant-Date Fair			
	Number of Shares	Value			
Unvested at September 30, 2018	—	\$	—		
Granted	219,890		67.40		
Vested	—		—		
Forfeited	(2,534)		67.40		
Unvested at March 31, 2019	217,356	\$	67.40		

We recorded non-cash compensation expense related to stock-based awards as follows (in thousands):

	Three Months					
	Ended		Six Months Ended			
	March 31,		March 31,			
	2019	2018	2019	2018		
Cost of sales	\$ 425	\$ 216	\$ 738	\$ 372		
Selling, general and administrative	3,213	654	5,620	2,125		
	\$ 3,638	\$ 870	\$ 6,358	\$ 2,497		

As of March 31, 2019, there was \$48.4 million of unrecognized compensation cost related to unvested RSUs. Based upon the expected forfeitures and the expected vesting of performance based RSUs, the aggregate fair value of RSUs expected to ultimately vest is \$37.3 million. This amount is expected to be recognized over a weighted-average period of 1.7 years.

We estimate forfeitures at the time of grant and revise those estimates in subsequent periods on a cumulative basis in the period the estimated forfeiture rate changes for all stock-based awards when significant events occur. We consider our historical experience with employee turnover as the basis to arrive at our estimated forfeiture rate. The forfeiture rate was estimated to be 12.5% per year as of March 31, 2019. To the extent the actual forfeiture rate is different from what we have estimated, stock-based compensation related to these awards will be different from our expectations.

Note 12 – Income Taxes

U.S. Tax Cuts and Jobs Act

On December 22, 2017, the U.S. government enacted the Tax Act. Due to the complexity of the Tax Act, the SEC issued guidance in SAB 118 which clarified the accounting for income taxes under ASC 740 if certain information was not yet available, prepared or analyzed in reasonable detail to complete the accounting for income tax effects of the Tax Act. SAB 118 provided for a measurement period of up to one year after the enactment of the Tax Act, during which time the required analyses and accounting must be completed. During fiscal year 2018, we recorded provisional amounts for the income tax effects of the changes in tax law and tax rates, as reasonable estimates were determined by management during this period.

The SAB 118 measurement period ended on December 22, 2018. Although we no longer consider these amounts to be provisional, the determination of the Tax Act's income tax effects may change following future legislation or further

interpretation of the Tax Act based on the publication of recently proposed U.S. Treasury regulations and guidance from the Internal Revenue Service and state tax authorities.

The Tax Act includes provisions for Global Intangible Low-Tax Income (GILTI) under which taxes on foreign income are imposed on the excess of a deemed return on tangible assets of foreign subsidiaries. Consistent with accounting guidance, we have elected to account for the tax on GILTI as a period cost and thus have not adjusted any net deferred tax assets of our foreign subsidiaries in connection with the Tax Act.

Effective Tax Rate

During interim periods, we generally utilize the estimated annual effective tax rate method which involves the use of forecasted information. Under this method, the provision is calculated by applying an estimate of the annual effective tax rate for the full fiscal year to "ordinary" income or loss (pretax income or loss excluding unusual or infrequently occurring discrete items) for the reporting period. For the six-month period ended March 31, 2019, we believe it is more appropriate to use a blend of the discrete effective tax rate method and the estimated annual effective tax rate method to calculate income tax expense for the period. Since income from U.S. operations fluctuates throughout the year, we determined the discrete tax rate method should be utilized to determine a more reliable estimate of U.S. income tax expense for the period.

The income tax benefit recognized on pre-tax losses from continuing operations for the three and six months ended March 31, 2019 resulted in an effective tax rate of 29% and 6%, respectively, which differs from the U.S. statutory tax rate of 21% primarily due to the jurisdictional mix of pre-tax income (loss) and discrete tax benefits recorded in the three months ended March 31, 2019 related to the release of a portion of the existing U.S. deferred tax valuation allowance due to deferred tax liabilities acquired in business combinations. The effective tax rate for the six months ended March

31, 2019 differs from the effective tax rate of 8% and 48% for the six months ended March 31, 2018 and the year ended September 30, 2018, respectively, primarily due to differences in the jurisdictional mix of pre-tax income (loss), partially offset by discrete benefits resulting from the enactment of the Tax Act and by discrete benefits recorded related to the release of a portion of the existing U.S. deferred tax valuation allowance due to deferred tax liabilities acquired in business combinations.

Deferred Tax Balances

As of March 31, 2019, we maintained a valuation allowance against U.S. deferred tax assets as realization of such assets does not meet the more-likely-than-not threshold required under accounting guidelines. We will continue to assess the need for a valuation allowance on deferred tax assets by evaluating positive and negative evidence that may exist. Through March 31, 2019, a total valuation allowance of \$74.8 million has been established for U.S. net deferred tax assets, certain foreign operating losses and other foreign assets.

Note 13 — Derivative Instruments and Hedging Activities

In order to manage our exposure to fluctuations in interest and foreign currency exchange rates we utilize derivative financial instruments such as forward starting swaps and foreign currency forwards for periods typically up to three years. We do not use any derivative financial instruments for trading or other speculative purposes.

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 earnings. 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 earnings, or the forecasted transaction is no longer probable of occurring. If a derivative does not qualify as a highly effective hedge, any change in fair value is immediately recognized in earnings. We formally document all 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. We classify the fair value of all derivative contracts as current or noncurrent assets or liabilities, depending on the realized and unrealized gain or loss position of the hedged contract at the balance sheet date, and the timing of future cash flows. The cash flows from derivatives treated as hedges are classified in the Condensed Consolidated Statements of Cash Flows in the same category as the item being hedged.

The following table shows the notional principal amounts of our outstanding derivative instruments as of March 31, 2019 and September 30, 2018 (in thousands):

	Notional Pri	Notional Principal		
	March 31, Septembe			
	2019	30, 2018		
Instruments designated as accounting hedges:				
Foreign currency forwards	\$ 157,574	\$ 169,406		
Instruments not designated as accounting hedges:				
Foreign currency forwards	\$ 15,474	\$ 27,909		

Included in the amounts not designated as accounting hedges at March 31, 2019 and September 30, 2018 were foreign currency forwards with notional principal amounts of \$6.3 million and \$14.7 million, respectively, that have been designed to manage exposure to foreign currency exchange risks, and for which the gains or losses of the changes in fair value of the forwards has approximately offset an equal and opposite amount of gains or losses related to the foreign currency exposure. Unrealized gains of \$0.3 million and \$0.2 million were recognized in other income (expense), net for the three months ended March 31, 2019 and 2018, respectively, related to these foreign currency forward contracts not designated as accounting hedges. For the six months ended March 31, 2019 unrealized gains of \$0.2 million included in other income (expense) for the six months ended March 31, 2018, related to foreign currency forwards not designated as accounting hedges.

The notional principal amounts for outstanding derivative instruments provide one measure of the transaction volume outstanding and do not represent the amount of our exposure to credit or market loss. Credit risk represents our gross exposure to potential accounting loss on derivative instruments that are outstanding or unsettled if all counterparties

failed to perform according to the terms of the contract, based on then-current interest or currency exchange rates at each respective date. Our exposure to credit loss and market risk will vary over time as a function of interest and currency exchange rates. The amount of credit risk from derivative instruments and hedging activities was not material for the periods ended March 31, 2019 and September 30, 2018. Although the table above reflects the notional principal amounts of our foreign exchange instruments, it does not reflect the gains or losses associated with the exposures and transactions that the foreign exchange instruments are intended to hedge. The amounts ultimately realized upon settlement of these financial instruments, together with the gains and losses on the underlying exposures, will depend on actual market conditions during the remaining life of the instruments.

We generally enter into master netting arrangements, which reduce credit risk by permitting net settlement of transactions with the same counterparty. We present our derivative assets and derivative liabilities at their gross fair values. We did not have any derivative instruments with credit-risk related contingent features that would require us to post collateral as of March 31, 2019 or September 30, 2018.

The table below presents the fair value of our derivative financial instruments that qualify for hedge accounting as well as their classification in the Condensed Consolidated Balance Sheets (in thousands):

		Fair Value	
		March	September
	Balance Sheet Location	31, 2019	30, 2018
Asset derivatives:			
Foreign currency forwards	Other current assets	\$ 2,727	\$ 1,803
Foreign currency forwards	Other noncurrent assets	325	314
		\$ 3,052	\$ 2,117
Liability derivatives:			
Foreign currency forwards	Other current liabilities	\$ 1,460	\$ 1,657
Foreign currency forwards	Other noncurrent liabilities		75
Total		\$ 1,460	\$ 1,732

The tables below present gains and losses recognized in other comprehensive income (loss) related to derivative financial instruments designated as cash flow hedges, as well as the amount of gains and losses reclassified into earnings (in thousands):

Six Months Ended March 31, 2019 M Gains (losses) Gains (losses)eclassified into earnings - C

March 31, 2018 Gains (losses) reclassified into Gains (losses)arnings -

	recognized in					
Derivative True	OCI	Effective Dertier	recognized	Effective Doution		
Derivative Type	OCI	Effective Portion	in OCI	Effective Portion		
Foreign currency forwards	\$ (822)	\$ 373	\$ (203)	\$ (798)		
	Three Mont March 31, 2		March 31, 2018 Gains (losses)			
	Gains (losse	esteclassified into		reclassified into		
	recognized			reclussified into		
	in	earnings -	Gains (losse recognized	es) arnings -		
Derivative Type	OCI	Effective Portion	in OCI	Effective Portion		
Foreign currency forwards	\$ 1,079	\$ 405	\$ (859)	\$ (24)		

The amount of unrealized gains and losses from derivative instruments and hedging activities classified as not highly effective did not have a material impact on the results of operations for the three- and six-month periods ended March 31, 2019 and 2018. The amount of estimated unrealized net gains from cash flow hedges which are expected to be reclassified to earnings in the next twelve months is \$1.1 million, net of income taxes.

Note 14 — Segment Information

We define our operating segments and reportable segments based on the way our chief executive officer, who we have concluded is our chief operating decision maker, manages our operations for purposes of allocating resources and assessing performance and we continually reassess our operating segment and reportable segment designation based upon these criteria. We evaluate performance and allocate resources based on total segment operating income or loss. The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies. Intersegment sales and transfers are immaterial and are eliminated in consolidation.

Our reportable segments are business units that offer different products and services. Operating results for each segment are reported separately to senior corporate management to make decisions as to the allocation of corporate resources and to assess performance.

Business segment financial data is as follows (in millions):

	Three Mont March 31,	ths Ended	Six Months Ended March 31,	
	2019	2018	2019	2018
Sales:				
Cubic Transportation Systems	\$ 200.7	\$ 167.0	\$ 382.5	\$ 313.5
Cubic Mission Solutions	61.9	36.1	108.3	69.2
Cubic Global Defense	74.7	75.5	151.8	144.3
Total sales	\$ 337.3	\$ 278.6	\$ 642.6	\$ 527.0
Operating income (loss):				
Cubic Transportation Systems	\$ 8.8	\$ 14.2	\$ 19.8	\$ 24.1
Cubic Mission Solutions	(8.5)	(7.8)	(13.4)	(16.7)
Cubic Global Defense	5.2	5.3	8.1	6.7
Unallocated corporate expenses	(12.0)	(13.4)	(21.6)	(27.7)
Total operating income (loss)	\$ (6.5)	\$ (1.7)	\$ (7.1)	\$ (13.6)
Depreciation and amortization:				
Cubic Transportation Systems	\$ 9.5	\$ 3.0	\$ 17.2	\$ 6.3
Cubic Mission Solutions	5.8	5.2	11.2	11.1
Cubic Global Defense	1.5	2.0	3.7	4.1
Corporate	0.8	0.9	1.5	2.0
Total depreciation and amortization	\$ 17.6	\$ 11.1	\$ 33.6	\$ 23.5

Unallocated corporate costs in the second quarter of 2019 include costs of strategic and IT system resource planning as part of our One Cubic Initiatives, which totaled \$2.3 million compared to \$5.7 million in the second quarter of last year. Unallocated corporate costs included \$3.9 million of costs incurred in the first half of 2019 for strategic and IT system resource planning compared to \$13.7 million in the first half of last year. As described in Note 3, the operating results of CGD Services have been classified as discontinued operations in the Condensed Consolidated Statements of Operations for all periods presented.

Disaggregation of Total Net Sales. We disaggregate our sales from contracts with customers by end customer, contract type, deliverable type and revenue recognition method for each of our segments, as we believe these factors affect the nature, amount, timing, and uncertainty of our revenue and cash flows.

Sales by Geographic Region (in millions):

	Three mor	ths ended N	Iarch 31, 20)19	Six months ended March 31, 2019			
	CTS	CMS	CGD	Total	CTS	CMS	CGD	Total
United States	\$ 106.9	\$ 60.5	\$ 34.0	\$ 201.4	\$ 198.2	\$ 106.0	\$ 69.7	\$ 373.9
		•		•	•	·	·	
United Kingdom	53.2	0.7	4.3	58.2	104.1	1.1	8.6	113.8
Australia	30.4	0.1	7.1	37.6	60.2	0.2	12.7	73.1
Far East/Middle								
East	3.5	0.2	12.3	16.0	7.9	0.6	30.7	39.2
Other	6.7	0.4	17.0	24.1	12.1	0.4	30.1	42.6
Total sales	\$ 200.7	\$ 61.9	\$ 74.7	\$ 337.3	\$ 382.5	\$ 108.3	\$ 151.8	\$ 642.6

Sales by End Customer. We are the prime contractor for the vast majority of our sales. The table below presents total net sales disaggregated by end customer (in millions):

	Three months ended March 31, 2019				Six months ended March 31, 2019			
	CTS	CMS	CGD	Total	CTS	CMS	CGD	Total
U.S. Federal Government and State and Local								
Municipalities	\$ 96.7	\$ 58.1	\$ 37.6	\$ 192.4	\$ 187.5	\$ 103.9	\$ 70.0	\$ 361.4
Other	104.0	3.8	37.1	144.9	195.0	4.4	81.8	281.2
Total sales	\$ 200.7	\$ 61.9	\$ 74.7	\$ 337.3	\$ 382.5	\$ 108.3	\$ 151.8	\$ 642.6

Sales by Contract Type. Substantially all of our contracts are fixed-price type contracts. Sales included in Other contract types represent cost plus and time and material type contracts.

On a fixed-price type contract, we agree to perform the contractual statement of work for a predetermined sales price. On a cost-plus type contract, we are paid our allowable incurred costs plus a profit which can be fixed or variable depending on the contract's fee arrangement up to predetermined funding levels determined by the customer. On a time-and-material type contract, we are paid on the basis of direct labor hours expended at specified fixed-price hourly rates (that include wages, overhead, allowable general and administrative expenses and profit) and materials at cost. The table below presents total net sales disaggregated by contract type (in millions):

Three month	ns ended Ma	rch 31, 201	9	Six months ended March 31, 2019				
CTS	CMS	CGD	Total	CTS	CMS	CGD	Total	

Fixed Price	\$ 197.5	\$ 60.6	\$ 68.2	\$ 326.3	\$ 375.7	\$ 106.4	\$ 139.8	\$ 621.9
Other	3.2	1.3	6.5	11.0	6.8	1.9	12.0	20.7
Total sales	\$ 200.7	\$ 61.9	\$ 74.7	\$ 337.3	\$ 382.5	\$ 108.3	\$ 151.8	\$ 642.6

Sales by Deliverable Type: The table below presents total net sales disaggregated by the type of deliverable, which is determined by us at the performance obligation level (in millions):

	Three mon	ths ended M	Iarch 31, 20	19	Six months ended March 31, 2019			
	CTS	CMS	CGD	Total	CTS	CMS	CGD	Total
Product Service Total sales	\$ 113.8 86.9 \$ 200.7	\$ 56.1 5.8 \$ 61.9	\$ 52.8 21.9 \$ 74.7	\$ 222.7 114.6 \$ 337.3	\$ 205.8 176.7 \$ 382.5	\$ 96.7 11.6 \$ 108.3	\$ 102.5 49.3 \$ 151.8	\$ 405.0 237.6 \$ 642.6

Revenue Recognition Method: The table below presents total net sales disaggregated based on the revenue recognition method applied (in millions):

	Three months ended March 31, 2019				Six months ended March 31, 2019			
	CTS	CMS	CGD	Total	CTS	CMS	CGD	Total
Point in Time	\$ 21.8	\$ 58.8	\$ 1.4	\$ 82.0	\$ 38.5	\$ 93.2	\$ 1.9	\$ 133.6
Over Time	178.9	3.1	73.3	255.3	344.0	15.1	149.9	509.0
Total sales	\$ 200.7	\$ 61.9	\$ 74.7	\$ 337.3	\$ 382.5	\$ 108.3	\$ 151.8	\$ 642.6

Note 15 — Legal Matters

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

CUBIC CORPORATION

ITEM 2 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL

CONDITION AND RESULTS OF OPERATIONS

March 31, 2019

Cubic Corporation 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 systems 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 for all periods presented 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 Mission Solutions (CMS), and Cubic Global Defense Systems (CGD). 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 specializes in the design, development, production, installation, maintenance and operation of automated fare payment, intelligent 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. Advanced Traffic Solutions Inc. (Trafficware) and GRIDSMART Technologies, Inc. (GRIDSMART), which we acquired in fiscal 2019, when combined with our existing transportation capabilities, are expected to enhance our ability to offer compelling solutions to reduce urban congestion using their intelligent, data-rich intersection management technology.

CMS provides C4ISR capabilities for defense, intelligence, security and commercial missions. CMS' core competencies include protected wide-band communications for command, control and intelligence, surveillance and reconnaissance (C2ISR) 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.

CGD is a leading 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.

Consolidated Overview

We adopted Accounting Standards Update (ASU) 2014-09, Revenue from Contracts with Customers (commonly known as ASC 606), effective October 1, 2018 using the modified retrospective transition method. In accordance with the modified retrospective transition method, the three- and six-month periods ended March 31, 2019 are presented under ASC 606, while the three- and six-month periods ended March 31, 2018 are presented under ASC 605, Revenue Recognition, the accounting standard in effect for periods ending prior to October 1, 2018. The cumulative effect of the change in accounting for periods prior to October 1, 2018 was recognized through retained earnings at the date of adoption.

The table below quantifies the impact of adopting ASC 606 on net sales and operating income (loss) for the three and six months ended March 31, 2019 (in thousands):

	Three months	ended March	n 31, 2019	Six months ended March 31, 2019			
			As Reported		As Reported		
	Under	Effect of	Under	Under	Effect of	Under	
	ASC 605	ASC 606	ASC 606	ASC 605	ASC 606	ASC 606	
Sales:							
Cubic Transportation							
Systems	\$ 182,571	\$ 18,122	\$ 200,693	\$ 355,299	\$ 27,201	\$ 382,500	
Cubic Mission Solutions	62,677	(742)	61,935	108,040	288	108,328	
Cubic Global Defense	64,387	10,324	74,711	123,120	28,650	151,770	
Total sales	\$ 309,635	\$ 27,704	\$ 337,339	\$ 586,459	\$ 56,139	\$ 642,598	
Operating income (loss): Cubic Transportation							
Systems	\$ 5,673	\$ 3,122	\$ 8,795	\$ 14,859	\$ 4,912	\$ 19,771	
Cubic Mission Solutions	(7,911)	(512)	(8,423)	(13,232)	(131)	(13,363)	
Cubic Global Defense	2,390	2,783	5,173	4,127	3,943	8,070	
Unallocated corporate	,					,	
expenses	(12,086)		(12,086)	(21,585)		(21,585)	
Total operating income							
(loss)	\$ (11,934)	\$ 5,393	\$ (6,541)	\$ (15,831)	\$ 8,724	\$ (7,107)	

Sales for the quarter ended March 31, 2019 increased 21% to \$337.3 million from \$278.6 million in the same quarter last year, which includes the impact of the adoption of the new revenue recognition standard described and quantified above. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar had unfavorable impacts on sales of \$7.2 million for the second quarter of fiscal 2019 and \$12.7 million for the first half of fiscal 2019 compared to the same periods last year. For the quarter, sales from CMS and CTS increased by 71% and 20%, respectively while sales from CGD decreased by less than 1%. For the first six months of fiscal 2019,

consolidated sales increased 22% to \$642.6 million compared to \$527.0 million last year. For the first half of fiscal 2019, sales from CTS, CMS and CGD increased by 22%, 57% and 5%, respectively. Sales generated by businesses we acquired during fiscal 2019 and 2018 totaled \$18.9 million and \$29.6 million for the three- and six-month periods ended March 31, 2019, respectively, compared to \$0.9 million and \$3.1 million for the three- and six-month periods ended March 31, 2018, respectively. See the segment discussions below for further analysis of segment sales.

Our consolidated operating loss was \$6.5 million in the second quarter of fiscal 2019 compared to an operating loss of \$1.7 million in the second quarter of last year. The average exchange rates between the prevailing currency in our foreign operations and the U.S. had an unfavorable impact on our quarterly operating results of \$1.3 million in the second quarter compared to the same quarter last year. CTS operating income decreased to \$8.8 million for the second quarter compared to \$14.2 million last year while CGD had operating income of \$5.2 million in the second quarter compared to \$5.3 million last year. The CMS operating loss for the second quarter increased to \$8.5 million this year compared to \$7.8 million last year. The operating results of CTS and CMS were significantly impacted by the impacts of accounting for businesses acquired during fiscal 2019, as further described in the segment discussions below. On a consolidated basis, businesses we acquired during fiscal 2019 and 2018 had operating losses totaling \$11.0 million and \$15.6 million for the three- and six-month periods ended March 31, 2019, respectively, compared to \$1.3 million and \$2.1 million for the three- and six-month periods ended March 31, 2018, respectively. Unallocated corporate and other costs for the second quarter of fiscal 2019 were \$12.0 million compared to \$13.4 million in the same period last year. Unallocated corporate costs included unallocated IT costs which totaled \$4.2 million in the second quarter of fiscal 2019 compared to \$8.0 million for the same period last year. The reduction in unallocated IT costs is the result of many of our IT projects reaching or approaching finalization in the first half of fiscal 2019.

Our consolidated operating loss for the first half of fiscal 2019 decreased 48% to \$7.1 million from \$13.6 million for the same period last year. The average exchange rates between the prevailing currency in our foreign operations and the U.S. had an unfavorable impact on our operating results of \$1.9 million in the first half of fiscal 2019 compared to the same period last year. The operating loss for CMS decreased 20% in the first six months of fiscal 2019 compared to the first six months of last year, while the CGD Systems operating income for the first half of fiscal 2019 increased by 21% and CTS operating income decreased by 18%. Both the CMS and CTS operating results were significantly impacted by accounting for businesses acquired in fiscal 2019. See the segment discussions below for further analysis of segment operating income (loss) including the impacts of business acquisition accounting. Unallocated corporate and other costs for the first half of fiscal 2019 were \$21.6 million compared to \$27.7 million in the same period last year. The decrease in unallocated corporate costs included a decrease in unallocated IT costs which totaled \$6.1 million in the first half of fiscal 2019 compared to \$17.4 million for the first half of last year.

Our gross margin percentage on product sales decreased slightly to 25% in the second quarter of fiscal 2019 from 26% in the second quarter last year. Our gross margin percentage on products sales remained at 28% for the first half of fiscal 2019 and the first half of 2018. The decrease in product sales gross margins in the second quarter was primarily due to sales mix. Our gross margin percentage on service sales was 28% in the second quarter of fiscal 2019 compared to 35% in the second quarter of last year, and decreased to 26% for the first half of fiscal 2019 compared to 31% for the first half of last year. The decrease in total services sales and gross margins on service sales was primarily driven by the completion of a services contract in Australia in late fiscal 2018, which had relatively high gross margins. In addition, margins were lower due to increased costs on certain international CGD service contracts.

Selling, general and administrative (SG&A) expenses increased in the second quarter of fiscal 2019 to \$66.2 million compared to \$63.8 million in the same period last year. For the six-months ended March 31, 2019, SG&A expenses increased to \$129.2 million compared to \$125.5 million for the same period last year. As a percentage of sales, SG&A expenses were 20% for the three- and six-month period ended March 31, 2019, compared to 23% and 24% for the three- and six-month periods ended March 31, 2018, respectively. The increase in SG&A expense for the second quarter and first half of fiscal 2019 was primarily due to the SG&A expenses incurred by three businesses we acquired in the first half of fiscal 2019 including Trafficware in October 2018, GRIDSMART in January 2019, and Nuvotronics in March 2019. These increases in SG&A were partially offset by the reduction in unallocated corporate costs, including the reduction of unallocated IT costs described above.

Company funded research and development (R&D) expenditures decreased slightly to \$13.8 million for the second quarter of fiscal 2019 compared to \$14.2 million for the same period last year, and decreased to \$25.8 million for the six-month period this year compared to \$26.2 million last year. For the second quarter and first half of fiscal 2019 there was a slight shift in the mix of R&D expenditures between our business segments with CMS R&D expenditures increasing as a percent of our total R&D spend and CGD decreasing as a percentage of total R&D expense. In the second quarter and first half of fiscal 2019 CTS continued to make R&D investments in new transportation product development, including fare collection technologies, real-time passenger information and development of intelligent transport systems and analytic technologies. CGD's R&D expenditures focused on next generation live, virtual, constructive training systems and CMS' R&D expenditures were driven by the development of secure communications and ISR as a service technologies.

Amortization of purchased intangibles for the second quarter of fiscal 2019 increased to \$12.4 million from \$6.5 million in the same period last year and increased to \$23.0 million in the first half of fiscal 2019 as compared to \$13.8 million in the first half last year. These increases were driven by the amortization of intangible assets from businesses acquired in the first half of fiscal 2019.

Interest expense for the second quarter of fiscal 2019 was \$4.5 million, compared to \$2.9 million in the second quarter of last year. Interest expense for the first half of fiscal 2019 increased to \$8.6 million, compared to \$5.6 million in the first half of last year. The increase in interest expense was primarily caused by the increase in our average outstanding debt balances for the second quarter and first half of fiscal 2019 compared to the second quarter and first half of fiscal 2018. The average outstanding borrowings under our revolving credit agreement increased during the first half of fiscal 2019 primarily to finance the acquisition of three businesses.

The income tax benefit recognized on pre-tax losses from continuing operations for the six months ended March 31, 2019 resulted in an effective tax rate of 6.2%, which differs from the effective tax rates of 48% for the year ended September 30, 2018 and 8.2% for the six months ended March 31, 2018, primarily due to the difference in jurisdictional mix of pre-tax income (loss), offset by discrete benefits resulting from the enactment of the Tax Cuts and Jobs Act of

2017 (the Tax Act) and by discrete benefits recorded related to the release of a portion of the existing U.S. deferred tax valuation allowance due to deferred tax liabilities acquired in business combinations. Through March 31, 2019, a total valuation allowance of \$74.8 million has been established for U.S. net deferred tax assets, certain foreign operating losses and other foreign assets. 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.

Our effective tax rate could be affected 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. After considering the impact of the U.S. valuation allowance, we have determined that a reliable estimate of the annual effective tax rate for fiscal year 2019 cannot be made, since relatively small changes in our projected income produce a significant variation in our effective tax rate.

Our net loss from continuing operations attributable to Cubic in the second quarter of fiscal 2019 was \$8.1 million compared to net income of \$3.3 million in the second quarter last year. The increase in net loss from continuing operations attributable to Cubic from the second quarter of fiscal 2018 to the second quarter of fiscal 2019 was driven primarily by the increase in operating loss described above including the impact of purchase accounting on business acquisitions, partially offset by the income tax benefit recognized in the second quarter of fiscal 2019 as described above. For the first half of fiscal 2019, our net loss from continuing operations attributable to Cubic was \$14.6 million compared to \$14.8 million last year. The change in net loss from continuing operations attributable to Cubic from the first half of fiscal 2019 was favorably impacted by the reduction in our operating loss described above despite higher amortization expense from the acquisitions, partially offset by an increase in interest expense as described above. In addition, nonoperating expense in the second quarter and first half of fiscal 2019 included unrealized losses of \$3.8 million and \$9.9 million, respectively, caused by the change in the fair value of an interest rate swap held by a variable interest entity (VIE) that is consolidated by Cubic. The 90 percent noncontrolling interest in the net loss of the consolidated VIE, which is comprised primarily of the VIE's loss on its interest rate swap, is added back to our net loss to arrive at net loss attributable to Cubic.

Cubic Transportation Systems Segment (CTS)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2019	2018	2019	2018
Transportation Systems Segment Sales	(in millions \$ 200.7	s) \$ 167.0	\$ 382.5	\$ 313.5
Transportation Systems Segment Operating Income	\$ 8.8	\$ 14.2	\$ 19.8	\$ 24.1

CTS sales increased 20% in the second quarter of fiscal 2019 to \$200.7 million compared to \$167.0 million last year, and increased 22% for the first half of fiscal 2019 to \$382.5 million from \$313.5 million in the same period last year,

including the impact of the adoption of the new revenue recognition standard described above. For the second quarter and first half of fiscal 2019, sales increased in North America significantly compared to these same periods last year, while sales in the U.K decreased slightly for such periods. Sales in Australia were relatively flat for the second quarter and first half of fiscal 2019. Sales were higher in the U.S. primarily due to revenue from system development on the MBTA contract, as well as sales from two U.S. businesses acquired in fiscal 2019, Trafficware and GRIDSMART. Sales for Trafficware and GRIDSMART totaled \$18.0 million and \$28.5 million for the three- and six-month periods ended March 31, 2019, respectively. The decrease in sales in the U.K. was primarily caused by the impact of foreign currency exchange rates. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar resulted in a decrease in sales of \$6.3 million for the second quarter of fiscal 2019 and \$11.1 million for the six-month period compared to the same periods last year, primarily due to the strengthening of the U.S. dollar against the British pound and Australian dollar.

CTS operating income decreased 38% in the second quarter of fiscal 2019 to \$8.8 million compared to operating income of \$14.2 million in the second quarter of last year, and decreased 18% for the first half of fiscal 2019 to \$19.8 million from \$24.1 million for the first half of last year. The decrease in operating income was caused by the operating losses generated by businesses that CTS acquired during fiscal 2019, which totaled \$7.2 million and \$10.5 million for the three- and six-month periods ended March 31, 2019, respectively, driven by acquisition-related expenses of \$3.9 million and \$5.3 million for the three- and six-month periods ended March 31, 2019, respectively, and amortization of purchased

intangibles of \$6.7 million and \$11.0 million for the three- and six-month periods ended March 31, 2019, respectively. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar resulted in a decrease in operating income of \$1.2 million for the second quarter of fiscal 2019 and \$1.9 million for the first half of fiscal 2019 compared to the same periods last year. For the second quarter and first half of fiscal 2019, operating income was higher from increased volumes of system development work, including work on the MBTA contract and for train operating companies in the U.K.

Cubic Mission Solutions Segment (CMS)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2019	2018	2019	2018
	(in millions	s)		
Cubic Mission Solutions Segment Sales	\$ 61.9	\$ 36.1	\$ 108.3	\$ 69.2
Cubic Mission Solutions Segment Operating Loss	\$ (8.5)	\$ (7.8)	\$ (13.4)	\$ (16.7)

CMS sales increased 71% in the second quarter of fiscal 2019 to \$61.9 million compared to \$36.1 million in the second quarter last year, and increased 57% for the first half of fiscal 2019 to \$108.3 million from \$69.2 million for the first half of last year. The increase in sales for the second quarter and first half of the year were primarily due to increased orders and shipments of expeditionary satellite communications products, secure network products, and C2ISR products. Sales generated by businesses acquired by CMS during fiscal 2019 and 2018 totaled \$0.9 million and \$1.1 million for the three- and six-month periods ended March 31, 2019, respectively, compared to \$0.1 million for each of the three- and six-month periods ended March 31, 2018.

The CMS operating loss was \$8.5 million in the second quarter of fiscal 2019 compared to \$7.8 million in the second guarter last year, and \$13.4 million for the first half of fiscal 2019 compared to \$16.7 million for the first half of last year. For the second quarter of fiscal 2019 compared to the second quarter last year, CMS had increased operating profits from expeditionary satellite communications products, secure network products, and C2ISR products and services due to increased sales. The changes in operating loss for the second quarter and first half of fiscal 2019 compared to the same periods last year were significantly impacted by operating losses incurred by businesses that CMS acquired during fiscal 2019 and 2018 which totaled \$3.8 million and \$5.1 million for the three- and six-month periods ended March 31, 2019, respectively, compared to \$0.2 million for each of the three- and six-month periods ended March 31, 2018. The operating losses of businesses acquired by CMS included acquisition-related expenses of \$2.2 million and \$2.3 million for the three- and six-month periods ended March 31, 2019, respectively, compared to \$0.4 million and \$0.6 million for the three- and six-month periods ended March 31, 2018, respectively, and included amortization of purchased intangibles of \$0.5 million and \$0.9 million for the three- and six-month periods ended March 31, 2019, respectively, compared to \$0.1 million in each of the three- and six-month periods ended March 31, 2018. Additionally, for the second quarter and first half of fiscal 2019, CMS operating losses were impacted by increases in R&D expenditures of \$2.3 million and \$2.1 million, respectively, compared to the same periods in fiscal 2018.

Cubic Global Defense Segment (CGD)

	Three Mo	onths		
	Ended		Six Month	s Ended
	March 31,		March 31,	
	2019	2018	2019	2018
	(in millio	ons)		
Cubic Global Defense Segment Sales	\$ 74.7	\$ 75.5	\$ 151.8	\$ 144.3
Cubic Global Defense Segment Operating Income	\$ 5.2	\$ 5.3	\$ 8.1	\$ 6.7

CGD sales decreased by 1% in the second quarter of fiscal 2019 to \$74.7 million compared to \$75.5 million in the second quarter of last year and increased 5% for the first half of fiscal 2019 to \$151.8 million from \$144.3 million for the first half of last year. The timing of sales recognition was significantly impacted by the adoption of the new revenue recognition standard described and quantified above. Under the new revenue recognition standard, a number of our CGD contracts, most significantly in air combat training and ground live training, for which revenue was historically recorded upon delivery of products to the customer, are now accounted for on the percentage-of-completion cost-to-cost method of revenue recognition. For the second quarter of fiscal 2019, sales were slightly lower from air combat training system and simulation product development contracts. For the first half of fiscal 2019, sales were higher from ground combat

training systems. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar resulted in a decrease in sales of \$0.9 million and \$1.6 million for the second quarter and first half of fiscal 2019, respectively, compared to the same periods last year.

CGD operating income was \$5.2 million in the second quarter of fiscal 2019 compared to \$5.3 million in the second quarter last year and increased 21% for the first half of fiscal 2019 to \$8.1 million from \$6.7 million for the first half of last year. For the second quarter of fiscal 2019, operating profits were slightly lower, compared to the same period last year, due to decreased air combat training system and simulation product sales, partially offset by increased sales of ground combat trainings systems. For the first half of fiscal 2019, operating profits were higher, compared to the same period last year, primarily due to increased sales of ground combat training systems. The average exchange rates between the prevailing currency in our foreign operations and the U.S. dollar did not have a significant impact on CGD's operating income for the second quarter or first half of fiscal 2019.

Backlog

		September
	March 31,	30,
	2019	2018
	(in millions)	
Total backlog		
Cubic Transportation Systems	\$ 3,276.3	\$ 3,544.9
Cubic Mission Solutions	186.6	77.0
Cubic Global Defense	332.7	442.6
Total	\$ 3,795.6	\$ 4,064.5

Total backlog decreased by \$268.9 million from September 30, 2018 to March 31, 2019 as sales outpaced new business orders in the first half of fiscal 2019. In addition, we recorded a net decrease to backlog of \$104.5 million on October 1, 2018 for the impact of the adoption of ASC 606. Changes in exchange rates between the prevailing currency in our foreign operations and the U.S. dollar as of the end of the quarter decreased backlog by \$10.2 million compared to September 30, 2018.

Liquidity and Capital Resources

Operating activities used cash of \$83.7 million for the first half of fiscal 2019 due to timing of cash flows on CTS design and build contracts, inventory builds for upcoming scheduled deliveries as well as payment of certain scheduled annual expenditures.

Investing activities for the first half of fiscal 2019 included \$239.2 million of cash paid related to the acquisition of Trafficware and \$87.2 million of cash paid related to the acquisition of GRIDSMART in our CTS segment, \$61.5 million of cash paid related to the acquisition of Nuvotronics in our CMS segment, and \$8.0 million of payments of holdback amounts made to the former owners of DTECH.

Financing activities for the six-month period ended March 31, 2019 included net short-term borrowings of \$209.0 million, and \$215.8 million of net proceeds from our underwritten public offering of 3,795,000 shares of our common stock at a price to the public of \$60.00 per share, which we completed in December 2018. We used the net proceeds from the offering to repay a portion of our outstanding borrowings under our revolving credit agreement, which has been used to finance the acquisition of Trafficware, and the remainder for general corporate purposes. The proceeds from the increase in short-term borrowings were primarily used to finance the acquisitions of GRIDSMART and Nuvotronics. In addition, we used \$3.4 million for the repurchase of common stock in connection with our stock-based compensation plan and paid dividends to shareholders of \$4.2 million.

In March 2018, 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 Cubic. 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 period 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 fixed payments of \$558.5 million, adjusted for incremental transaction-based fees, inflation, and performance penalties, 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 Cubic by OpCo. Cubic will receive fixed payments of \$427.6 million, adjusted for incremental transaction-based fees, inflation, and performance penalties, 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 an equity bridge loan. The loan carries a 2.5% interest rate and matures at the end of the design and build phase of the MBTA contract. Cubic issued a letter of credit for \$2.7 million to HoldCo in accordance with Cubic's equity funding responsibilities. HoldCo is able to draw on the Cubic letter of credit in certain liquidity instances, but no amounts have been drawn on this letter of credit as of March 31, 2019.

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 March 31, 2019, the outstanding balance on the long-term debt facility was \$25.6 million, which is presented net of unamortized deferred financing costs of \$8.8 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.

A change in exchange rates between foreign currencies, primarily between the Australian dollar and the U.S. dollar and between the British Pound and the U.S. dollar, resulted in an increase of \$1.3 million to our cash balance as of March 31, 2019 compared to September 30, 2018.

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 in March 2025. In addition, pursuant to the agreement, in July 2015, we issued an additional \$25.0 million of senior unsecured notes bearing interest at a rate of 3.70% and maturing in March 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. In February 2016, we revised the note purchase agreement and issued an additional \$75.0 million of senior unsecured notes bearing interest at 3.93% and maturing in March 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 coordination with the revision and expansion of the revolving credit agreement as discussed below in order to increase our leverage capacity. The interest rates on all of the term notes described above may be adjusted upwards by up to 0.75% should our leverage ratio exceed certain levels.

As of March 31, 2019, we had a committed revolving credit agreement with a group of financial institutions in the amount of \$400.0 million which was scheduled to expire in August 2021 (Revolving Credit Agreement). Debt issuance and modification costs of \$2.3 million and \$1.3 million were incurred in connection with February 2, 2016 and August 11, 2016 amendments to the Revolving Credit Agreement, respectively. Costs incurred in connection with establishment of and amendments to the Revolving Credit Agreement are recorded in other assets on our Condensed 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 March 31, 2019, our total debt issuance costs have an unamortized balance of \$1.6 million. The available line of credit is reduced by any letters of credit issued under the Revolving Credit Agreement. As of March 31, 2019, there were \$209.0 million of borrowings under this agreement and there were letters of credit outstanding totaling

\$31.2 million, which reduce the available line of credit to \$159.8 million. The \$31.2 million of letters of credit includes both financial letters of credit and performance guarantees.

In late April 2019, we executed the Fourth Amended and Restated Credit Agreement, which amended and restated the prior revolving credit agreement to increase the permitted borrowings to \$800.0 million, extend the maturity to April 30, 2024, add seven new financial institutions to the group of creditors, and amend certain terms and covenants. Borrowings under the agreement bear a variable rate of interest which is calculated based upon the U.S. dollar LIBOR rate plus a contractually defined credit spread that is based upon the tenor of the specific borrowing.

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. 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 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 United Kingdom 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 March 31, 2019 was \$19.1 million and is classified as restricted cash in our Condensed Consolidated Balance Sheets.

We have entered into a short-term borrowing arrangement in the United Kingdom in the amount of £20.0 million British pounds (equivalent to approximately \$25.9 million) to help meet the short-term working capital requirements of our subsidiary. At March 31, 2019, no amounts were outstanding under this borrowing arrangement.

As of March 31, 2019, virtually all of the \$71.9 million of our cash and cash equivalents, including restricted cash, was held by our foreign subsidiaries, primarily in the United Kingdom, New Zealand and Australia.

Subsequent to enactment of the Tax Act, future repatriations of foreign earnings will generally be exempt from U.S. tax. We will continue to monitor our intentions to repatriate foreign earnings and provide applicable deferred taxes and withholding taxes that would be due upon repatriation of the undistributed foreign earnings.

Our financial condition remains strong with working capital of \$185.2 million and a current ratio of 1.4 to 1 at March 31, 2019. We expect that cash on hand, cash flows from operations, and our unused lines of credit will be adequate to meet our liquidity requirements for the foreseeable future.

Recent Accounting Pronouncements

See "Recent Accounting Pronouncements" in Note 1 of the Condensed Consolidated Financial Statements of this Form 10-Q, 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.

Effective October 1, 2018, we adopted Accounting Standards Update 2014-09, Revenue from Contracts with Customers, as amended (commonly referred to as ASC 606), which changed the way we recognize revenue for certain contracts. See "Recently Adopted Accounting Pronouncements – Revenue Recognition" within "Note 1 – Basis for Presentation" included in our Notes to Consolidated Financial Statements for changes to our critical accounting policies as a result of adopting ASC 606. Other than changes to our revenue recognition policy as a result of adopting ASC 606 there have been no significant changes to the critical accounting policies disclosed in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended September 30, 2018.

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 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," "contin "ongoing," "expect," "believe," "intend," "predict," "potential," "opportunity" and similar words or phrases or the negatives of words or phrases. These forward-looking statements involve risks, estimates, assumptions and uncertainties, including those discussed in "Part I - Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended September 30, 2018 and in "Part II - Item 1A. Risk Factors" in our Quarterly Report on Form 10-Q for the quarter ended December 31, 2018, and throughout this report that could cause actual results to differ materially from those expressed in these statements. Such risks, estimates, assumptions and uncertainties include, among others:

[•] our ability to monitor and evaluate the effectiveness of new processes and procedures we have implemented to remediate the material weaknesses that previously existed in our internal control over financial reporting;

[·] 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 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;
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- 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;
- · changse 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 employees;
- 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; 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 3 - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our market risks at March 31, 2019 have not changed materially from those described under "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" in our Annual Report on Form 10-K for the year ended September 30, 2018.

ITEM 4 - CONTROLS AND PROCEDURES

We performed an evaluation of the effectiveness of our disclosure controls and procedures as of March 31, 2019. The evaluation was performed with the participation of senior management of each business segment and key corporate functions, and under the supervision of our Chief Executive Officer and our Chief Financial Officer. Based on our evaluation, we concluded that our disclosure controls and procedures were operating and effective as of that date.

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Disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (Exchange Act)) are designed to provide reasonable assurance that information required to be disclosed in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and that such information is accumulated and communicated to our management, including our Chief Executive Officer and our Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosures.

We have implemented changes to our processes, systems and controls with respect to the adoption of Accounting Standards Update 2014-09, Revenue from Contracts with Customers, as amended (commonly referred to as ASC 606). These changes included the development of policies and procedures, training, ongoing contract review requirements, internal management reports, controls related to information systems, and disclosures. There have not been any other significant changes in our internal control over financial reporting during the quarter ended March 31, 2019, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

ITEM 1 - LEGAL PROCEEDINGS

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

ITEM 1A - RISK FACTORS

There have been no material changes to the risk factors disclosed in "Part I - Item 1A. Risk Factors" of our Annual Report on Form 10-K for the year ended September 30, 2018, other than as previously disclosed in our Quarterly Report on Form 10-Q for the quarter ended December 31, 2018.

ITEM 5 - OTHER INFORMATION

Fourth Amended and Restated Credit Agreement

On April 30, 2019 Cubic Corporation ("Cubic") and Cubic's subsidiaries Cubic Transportation Systems, Inc. ("Transportation") and Cubic Defense Applications, Inc. ("Defense"), entered into a Fourth Amended and Restated Credit Agreement (the "Credit Agreement") by and among Cubic Corporation, Transportation, Defense, collectively as borrowers, the other subsidiaries of Cubic which become borrowers thereunder from time to time, JPMorgan Chase Bank, N.A., as administrative agent ("JPMorgan Chase"), and the other lenders party thereto. The Credit Agreement amends and restates in its entirety Cubic's Third Amended and Restated Credit Agreement, dated as of August 11, 2016, by and among Cubic, JPMorgan Chase, and the other lenders party thereto, as amended.

The Credit Agreement provides for a revolving line of credit of \$800.0 million (the "Revolving Line of Credit"), a \$200.0 million portion of which may be used for the issuance of letters of credit. Up to a \$200.0 million dollar equivalent amount of the Revolving Line of Credit may be denominated in certain agreed upon foreign currencies. Commitments under the revolving line of credit terminate on April 30, 2024. Under certain conditions, Cubic may add one or more tranches of term loans and/or increase revolving commitments under the Credit Agreement in an additional amount of up \$300.0 million. Borrowings under the Credit Agreement bear interest, at Cubic's option, at either (1) the Adjusted LIBO Rate (as described in the Credit Agreement) applicable to the applicable currency plus an applicable margin of 1.00% to 2.00% or (2) the Alternate Base Rate (as described in the Credit Agreement) plus an applicable margin of 0.00% to 1.00%. In the case of each of (1) and (2) above, the applicable margin is based on Cubic's net leverage ratio (as described in the Credit Agreement). The Credit Agreement is unsecured, but is required to be guaranteed by certain significant domestic subsidiaries of Cubic. Additional subsidiaries of Cubic may become borrowers under the Credit Agreement, including, without limitation, unused commitment fees, letter of credit participation fees and letter of credit fronting fees, in each case quarterly in arrears.

The Credit Agreement contains various customary representations, warranties, affirmative covenants and negative covenants, including financial covenants setting a maximum leverage ratio and a minimum interest coverage ratio. In addition, the Credit Agreement contains covenants that restrict, among other things, Cubic's and certain of Cubic's subsidiaries ability to sell assets, incur indebtedness, make investments and acquisitions, grant liens, engage in sale and leaseback transactions, enter in to certain restrictive agreements, pay dividends and make other restricted payments. The Credit Agreement also contains customary events of default. Upon the occurrence and during the continuance of an event of default, the lenders may declare all outstanding amounts under the Credit Agreement immediately due and payable, and may terminate commitments to make any additional advances thereunder.

The Credit Agreement also contains a "most favor nation" provision which requires that if at any time the Second Amended and Restated Note Purchase and Private Shelf Agreement dated as of August 11, 2016 (as amended, the "Note Agreement"), by and among Cubic, certain of its subsidiaries as guarantors, and PGIM, Inc. and certain of its

affiliates, or any agreement or document related thereto, includes (a) any covenant, event of default or similar provision that is not provided for in the Credit Agreement, or (b) any covenant, event of default or similar provision that is more restrictive than the same or similar covenant, event of default or similar provision provided in the Credit Agreement, then any such covenant, event of default or similar provision shall immediately and automatically be incorporated by reference into the Credit Agreement. In addition, certain provisions of the Credit Agreement will only be effective under the Credit Agreement or, conversely, shall cease to have effect, upon the occurrences of certain events with respect to the Note Agreement.

Certain of the lenders under the Credit Agreement and their respective affiliates have performed, and may in the future perform, for Cubic and its affiliates various commercial banking, investment banking, financial advisory or other services, for which they have received and may in the future receive customary compensation and expense reimbursement.

The description of the Credit Agreement contained herein does not purport to be complete and is qualified in its entirety by reference to the complete text of the Credit Agreement, which is attached as Exhibit 10.8 to this report and is incorporated herein by reference.

ITEM 6 - EXHIBITS

(a) The following exhibits are included herein:

Exhibit No.	Description		
3.1	Amended and Restated Certificate of Incorporation. Incorporated by reference to Form 8-K filed		
	February 19, 2019, file No. 001-08931, Exhibit 3.1.		
3.2	Amended and Restated Bylaws. Incorporated by reference to Form 8-K filed November 14, 2018, file		
	<u>No. 001-08931, Exhibit 3.1.</u>		
10.1*	Amended and Restated Cubic Corporation 2015 Incentive Award Plan. Incorporated by reference to		
	Appendix B to the Definitive Proxy Statement on Schedule 14A filed on January 18, 2019, file No.		
	<u>001-08931.</u>		
10.2*	Form of Stock Payment Award under the Amended and Restated Cubic Corporation 2015 Incentive		
	<u>Award Plan.</u>		
10.3	Construction and Development Agreement, dated as of February 5, 2019, between Cubic Corporation		
	and Bankers Commercial Corporation.		
10.4	Ground Lease, dated as of February 5, 2019, between Cubic Corporation and Bankers Commercial		
	Corporation.		
10.5	Lease Agreement, dated as of February 5, 2019, between Cubic Corporation and Bankers Commercial		
	Corporation.		
10.6 †	Participation Agreement, dated as of February 5, 2019, by and among Cubic Corporation, Bankers		
	Commercial Corporation, MUFG Bank, LTD and MUFG Union Bank, N.A.		
10.7 †	Memorandum of Lease, Fee and Leasehold Deed of Trust, Assignment of Leases and Rents, Security		
	Agreement and Fixture Filing, dated as of February 5, 2019, by and among Cubic Corporation,		
	Bankers Commercial Corporation Chicago Title Company, as deed of trust trustee for the benefit of		
	MUFG Union Bank, N.A.		
10.8 †	Fourth Amended and Restated Credit Agreement, dated as of April 30, 2019, by and among Cubic		
	Corporation, JP Morgan Chase Bank, N.A. (as administrative agent) and the other lenders party		
	thereto.		
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350		
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350		
101	Financial statements from the Cubic Corporation Quarterly Report on Form 10-Q for the quarter		
	ended March 31, 2019, formatted in Extensible Business Reporting Language (XBRL): (i) Condensed		
	Consolidated Statements of Operations, (ii) Condensed Consolidated Statements of Comprehensive		
	Income (Loss), (iii) Condensed Consolidated Balance Sheets, (iv) Condensed Consolidated		
	Statements of Cash Flows, and (v) Notes to Condensed Consolidated Financial Statements.		

*Indicates management contract or compensatory plan or arrangement.

[†]Portions of this exhibit have been omitted.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

CUBIC CORPORATION

Date May 2, 2019	/s/ Anshooman Aga Anshooman Aga Executive Vice President and Chief Financial Officer (Principal Financial Officer)
Date May 2, 2019	/s/ Mark A. Harrison Mark A. Harrison Senior Vice President and Corporate Controller (Principal Accounting Officer)