CONSTELLATION SOFTWARE INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS ("MD&A")

The following discussion and analysis should be read in conjunction with the Annual Consolidated Financial Statements for the year ended December 31, 2017, which were prepared in accordance with International Financial Reporting Standards ("IFRS"). Certain information included herein is forward-looking and based upon assumptions and anticipated results that are subject to uncertainties. Should one or more of these uncertainties materialize or should the underlying assumptions prove incorrect, actual results may vary significantly from those expected. See "Forward-Looking Statements" and "Risks and Uncertainties".

Unless otherwise indicated, all dollar amounts are expressed in U.S. dollars. All references to "$" are to U.S. dollars and all references to "C$" are to Canadian dollars. Certain totals, subtotals and percentages may not reconcile due to rounding.

Additional information about Constellation Software Inc. (the "Company" or "Constellation"), including our most recently filed Annual Information Form ("AIF"), is available on SEDAR at www.sedar.com.

Forward Looking Statements

Certain statements in this report may contain "forward looking" statements that involve risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company or industry to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Words such as "may", "will", "expect", "believe", "plan", "intend", "should", "anticipate" and other similar terminology are intended to identify forward looking statements. These statements reflect current assumptions and expectations regarding future events and operating performance as of the date of this MD&A, February 14, 2018. Forward looking statements involve significant risks and uncertainties, should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether or not such results will be achieved. A number of factors could cause actual results to vary significantly from the results discussed in the forward looking statements, including, but not limited to, the factors discussed under "Risks and Uncertainties". Although the forward looking statements contained in this MD&A are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward looking statements. These forward looking statements are made as of the date of this MD&A and the Company assumes no obligation, except as required by law, to update any forward looking statements to reflect new events or circumstances. This report should be viewed in conjunction with the Company's other publicly available filings, copies of which can be obtained electronically on SEDAR at www.sedar.com.

Non-IFRS Measures

This MD&A includes certain measures which have not been prepared in accordance with IFRS such as Adjusted EBITA, Adjusted EBITA margin, Adjusted net income, and Adjusted net income margin.

The term ''Adjusted EBITA'' refers to net income before adjusting for finance and other expense (income), bargain purchase gain, finance costs, income taxes, share in net income or loss of equity investees, impairment of non-financial assets, amortization, TSS membership liability revaluation charge, and foreign exchange gain or loss. The Company believes that Adjusted EBITA is useful supplemental information as it provides an indication of the results generated by the Company's main business activities prior to taking into consideration how those activities are financed and taxed and also prior to taking into consideration intangible asset amortization and the other items listed above. ''Adjusted EBITA margin'' refers to the percentage that Adjusted EBITA for any period represents as a portion of total revenue for that period.

''Adjusted net income'' means net income adjusted for non-cash expenses (income) such as amortization of intangible assets, deferred income taxes, the TSS membership liability revaluation charge, and certain other expenses (income), and excludes the portion of the adjusted net income of Total Specific Solutions (TSS) B.V. ("TSS") attributable to the minority owners of TSS (see "Capital Resources and Commitments" section). The Company believes that Adjusted net income is useful supplemental information as it provides an indication of the results generated by the Company's main business activities prior to taking into consideration amortization of intangible assets, deferred income taxes, the TSS membership liability revaluation charge, and certain other non-cash expenses (income) incurred or recognized by the Company from time to time, and adjusts for the portion of TSS' Adjusted net income not attributable to shareholders of Constellation. ''Adjusted net income margin'' refers to the percentage that Adjusted net income for any period represents as a portion of total revenue for that period.

Adjusted EBITA and Adjusted net income are not recognized measures under IFRS and, accordingly, readers are cautioned that Adjusted EBITA and Adjusted net income should not be construed as alternatives to net income determined in accordance with IFRS. The Company's method of calculating Adjusted EBITA and Adjusted net income may differ from other issuers and, accordingly, Adjusted EBITA and Adjusted net income may not be comparable to similar measures presented by other issuers. See ''Results of Operations —Adjusted EBITA'' and ''— Adjusted net income'' for a reconciliation of Adjusted EBITA and Adjusted net income to Net income. Adjusted EBITA includes 100% of the Adjusted EBITA of TSS.

Overview

We acquire, manage and build vertical market software ("VMS") businesses. Generally, these businesses provide mission critical software solutions that address the specific needs of our customers in particular markets. Our focus on acquiring businesses with growth potential, managing them well and then building them, has allowed us to generate significant cash flows and revenue growth during the past several years.

Our revenue consists primarily of software license fees, maintenance and other recurring fees, professional service fees and hardware sales. Software license revenue is comprised of license fees charged for the use of our software products generally licensed under multiple-year or perpetual arrangements in which the fair value of maintenance and/or professional service fees are determinable, where applicable. Maintenance and other recurring revenue primarily consists of fees charged for customer support on our software products post-delivery and also includes, to a lesser extent, recurring fees derived from software as a service, subscriptions, combined software/support contracts, transaction-related revenues, and hosted products. Maintenance and other recurring fee arrangements generally include ongoing customer support and rights to certain product updates "when and if available" and products sold on a subscription basis. Professional service revenue consists of fees charged for implementation and integration services, customized programming, product training and consulting. Hardware sales include the resale of third party hardware that forms part of our customer solutions, as well as sales of customized hardware assembled internally. Our customers typically purchase a combination of software, maintenance, professional services and hardware, although the type, mix and quantity of each vary by customer and by product.

Expenses consist primarily of staff costs, the cost of hardware, third party licenses, maintenance and professional services to fulfill our customer arrangements, travel and occupancy costs and other general operating expenses.

Results of Operations

(In millions of dollars, except percentages and per share amounts)

Unaudited

	Three months ended December 31,		Period-Over-Period Change		Year ended December 31,		Period-Over-Period Change		Year ended December 31,
	2017	2016	$	%	2017	2016	$	%	2015
Revenue	**687.6**	**563.8**	**123.8**	**22%**	**2,479.4**	**2,125.1**	**354.3**	**17%**	**1,838.3**
Expenses	513.0	412.4	100.6	24%	1,858.2	1,595.1	263.1	16%	1,392.8
Adjusted EBITA	**174.5**	**151.4**	**23.1**	**15%**	**621.2**	**530.0**	**91.2**	**17%**	**445.5**
Adjusted EBITA margin	25%	27%			25%	25%			24%
Amortization of intangible assets	62.6	58.6	4.1	7%	230.5	190.6	39.9	21%	180.5
Foreign exchange (gain) loss	(2.3)	1.2	(3.5)	NM	8.6	26.0	(17.4)	-67%	(15.7)
TSS membership liability revaluation charge	9.6	7.7	1.9	25%	49.9	21.6	28.3	131%	22.2
Share in net (income) loss of equity investees	(0.2)	0.4	(0.6)	NM	(0.4)	(5.3)	4.9	-93%	(1.1)
Finance and other income	(1.5)	(7.6)	6.2	-81%	(3.2)	(10.8)	7.7	-71%	(4.8)
Bargain purchase gain	(4.9)	-	(4.9)	NM	(9.9)	-	(9.9)	NM	-
Finance costs	5.3	5.2	0.1	2%	24.8	21.6	3.2	15%	20.1
Income before income taxes	105.8	85.9	19.9	23%	320.9	286.4	34.5	12%	244.3
Income taxes expense (recovery)									
Current income tax expense (recovery)	26.3	25.0	1.3	5%	106.5	84.9	21.5	25%	63.5
Deferred income tax expense (recovery)	3.4	(4.8)	8.2	NM	(7.6)	(5.3)	(2.2)	42%	3.6
Income tax expense (recovery)	29.7	20.3	9.4	46%	98.9	79.6	19.3	24%	67.1
Net income	**76.1**	**65.7**	**10.5**	**16%**	**222.0**	**206.8**	**15.2**	**7%**	**177.2**
Adjusted net income	**140.6**	**121.8**	**18.8**	**15%**	**462.9**	**395.0**	**67.9**	**17%**	**371.0**
Adjusted net income margin	20%	22%			19%	19%			20%
Weighted average number of shares outstanding (000's)									
Basic and diluted	21,192	21,192			21,192	21,192			21,192
Net income per share									
Basic and diluted	$ 3.59	$ 3.10	$ 0.49	16%	$ 10.47	$ 9.76	$ 0.72	7%	$ 8.36
Adjusted EBITA per share									
Basic and diluted	$ 8.24	$ 7.14	$ 1.09	15%	$ 29.31	$ 25.01	$ 4.30	17%	$ 21.02
Adjusted net income per share									
Basic and diluted	$ 6.63	$ 5.75	$ 0.89	15%	$ 21.84	$ 18.64	$ 3.20	17%	$ 17.51
Cash dividends declared per share									
Basic and diluted	$ 1.00	$ 1.00	$ -	0%	$ 4.00	$ 4.00	$ -	0%	$ 4.00
Total assets					2,288.2	1,883.5	404.8	21%	1,639.3
Total long-term liabilities					512.0	552.8	(40.8)	-7%	532.3

NM - Not meaningful

Comparison of the three and twelve month periods ended December 31, 2017 and 2016

Revenue:

Total revenue for the quarter ended December 31, 2017 was $687.6 million, an increase of 22%, or $123.8 million, compared to $563.8 million for the comparable period in 2016. For the 2017 fiscal year total revenues were $2,479.4 million, an increase of 17%, or $354.3 million, compared to $2,125.1 million for the comparable period in 2016. The increase for both the three and twelve month periods compared to the same periods in the prior year is primarily attributable to growth from acquisitions as the Company experienced organic growth of 8% and 3% respectively, 5% and 3% respectively after adjusting for the impact of changes in the valuation of the US dollar against most major currencies in which the Company transacts business. For acquired companies, organic growth is calculated as the difference between actual revenues achieved by each company in the financial period following acquisition compared to the estimated revenues they achieved in the corresponding financial period preceding the date of acquisition by Constellation.

The following table displays the breakdown of our revenue according to revenue type:

	Three months ended December 31,		Period-Over-Period Change		Q416 Proforma Adjustment (Note 1)	Organic Growth	Year ended December 31,		Period-Over-Period Change		2016 Proforma Adjustment (Note 2)	Organic Growth
	2017	2016	$	%		%	2017	2016	$	%		%
	($M, except percentages)						($M, except percentages)					
Licenses	49.9	39.4	10.5	27%	7.5	6%	170.4	142.5	27.9	20%	31.6	-2%
Professional services	139.5	117.0	22.5	19%	13.2	7%	498.2	434.5	63.7	15%	51.9	2%
Hardware and other	50.4	38.7	11.7	30%	4.5	17%	167.6	147.7	19.9	13%	11.8	5%
Maintenance and other recurring	447.7	368.6	79.1	21%	50.5	7%	1,643.2	1,400.3	242.9	17%	175.4	4%
	687.6	563.8	123.8	22%	75.7	8%	2,479.4	2,125.1	354.3	17%	270.6	3%

$M - Millions of dollars
Note 1: Estimated pre-acquisition revenues from companies acquired after September 30, 2016. (Obtained from unaudited vendor financial information.)
Note 2: Estimated pre-acquisition revenues from companies acquired after December 31, 2015. (Obtained from unaudited vendor financial information.)

For comparative purposes the table below shows the quarterly organic growth as compared to the same period in the prior year by revenue type since Q1 2016.

	Quarter Ended							
	Mar. 31 2016	Jun. 30 2016	Sep. 30 2016	Dec. 31 2016	Mar. 31 2017	Jun. 30 2017	Sep. 30 2017	Dec. 31 2017
Licenses	-14%	-15%	-11%	-1%	-13%	-6%	2%	6%
Professional services	-7%	2%	5%	1%	2%	-3%	3%	7%
Hardware and other	-10%	14%	2%	-29%	0%	1%	1%	17%
Maintenance and other recurring	2%	3%	4%	3%	3%	2%	5%	7%
Revenue	**-2%**	**2%**	**3%**	**-1%**	**1%**	**1%**	**4%**	**8%**
Adjusted for FX	**0%**	**3%**	**4%**	**1%**	**3%**	**2%**	**2%**	**5%**

We aggregate our business into two distinct reportable segments for financial reporting purposes: (i) the public sector reportable segment, which includes business units focused primarily on government and government-related customers, and (ii) the private sector reportable segment, which includes business units focused primarily on commercial customers.

The following table displays our revenue by reportable segment and the percentage change for the three and twelve months ended December 31, 2017 compared to the same periods in 2016:

	Three months ended December 31, 2017	Three months ended December 31, 2016	Period-Over-Period Change $	Period-Over-Period Change %	Q416 Proforma Adjustment (Note 1)	Organic Growth %	Year ended December 31, 2017	Year ended December 31, 2016	Period-Over-Period Change $	Period-Over-Period Change %	2016 Proforma Adjustment (Note 2)	Organic Growth %
	($M, except percentages)						($M, except percentages)					
Public Sector												
Licenses	31.8	25.0	6.7	27%	5.9	3%	106.7	87.6	19.2	22%	25.9	-6%
Professional services	111.6	93.9	17.7	19%	10.6	7%	398.2	344.4	53.8	16%	42.6	3%
Hardware and other	42.6	32.3	10.3	32%	2.9	21%	138.6	120.4	18.2	15%	8.0	8%
Maintenance and other recurring	286.7	232.4	54.3	23%	34.9	7%	1,045.6	875.9	169.7	19%	125.4	4%
	472.6	383.6	89.0	23%	54.3	8%	1,689.2	1,428.3	260.9	18%	201.9	4%
Private Sector												
Licenses	18.1	14.4	3.7	26%	1.5	14%	63.6	55.0	8.7	16%	5.7	5%
Professional services	28.0	23.1	4.9	21%	2.6	9%	100.0	90.1	9.9	11%	9.2	1%
Hardware and other	7.9	6.5	1.4	22%	1.6	-3%	29.0	27.3	1.7	6%	3.8	-7%
Maintenance and other recurring	161.0	136.2	24.8	18%	15.6	6%	597.6	524.5	73.2	14%	50.0	4%
	214.9	180.2	34.8	19%	21.3	7%	790.3	696.8	93.5	13%	68.7	3%

Certain totals and percentages may not reconcile due to rounding.

Note 1: Estimated pre-acquisition revenues from companies acquired after September 30, 2016. (Obtained from unaudited vendor financial information.)

Note 2: Estimated pre-acquisition revenues from companies acquired after December 31, 2015. (Obtained from unaudited vendor financial information.)

Public Sector

For the quarter ended December 31, 2017, total revenue in the public sector reportable segment increased 23%, or $89.0 million to $472.6 million, compared to $383.6 million for the quarter ended December 31, 2016. For the fiscal year ended December 31, 2017, total revenue increased by 18%, or $260.9 million to $1,689.2 million, compared to $1,428.3 million for the comparable period in 2016. For purposes of calculating organic growth, estimated pre-acquisition revenues included from the relevant companies acquired in 2016 and 2017 was $54.3 million and $201.9 million for the three and twelve month periods ended December 31, 2016, respectively. Organic revenue growth was 8% and 4% respectively for the three and twelve months ended December 31, 2017 compared to the same periods in 2016, and 5% and 3% respectively after adjusting for the impact of changes in the valuation of the US dollar against most major currencies in which the Company transacts business.

Private Sector

For the quarter ended December 31, 2017, total revenue in the private sector reportable segment increased 19%, or $34.8 million to $214.9 million, compared to $180.2 million for the quarter ended December 31, 2016. For the fiscal year ended December 31, 2017, total revenue increased by 13%, or $93.5 million to $790.3 million, compared to $696.8 million for the comparable period in 2016. For purposes of calculating organic growth, estimated pre-acquisition revenues included from the relevant companies acquired in 2016 and 2017 was $21.3 million and $68.7 million for the three and twelve month periods ended December 31, 2016, respectively. Organic revenue growth was 7% and 3% respectively for the three and twelve months ended December 31, 2017 compared to the same periods in 2016, and 5% and 3% respectively after adjusting for the impact of changes in the valuation of the US dollar against most major currencies in which the Company transacts business.

Expenses:

The following table displays the breakdown of our expenses:

	Three months ended December 31,		Period-Over-Period Change		Year ended December 31,		Period-Over-Period Change	
	2017	2016	$	%	2017	2016	$	%
	($M, except percentages)				($M, except percentages)			
Expenses								
Staff	338.1	277.2	60.9	22%	1,236.9	1,059.0	177.9	17%
Hardware	29.0	20.6	8.5	41%	92.7	82.3	10.4	13%
Third party license, maintenance and professional services	57.0	49.9	7.1	14%	212.6	192.7	19.9	10%
Occupancy	15.4	14.1	1.3	9%	58.9	51.7	7.2	14%
Travel, Telecommunications, Supplies & Software and equipment	44.0	34.4	9.6	28%	154.6	129.8	24.9	19%
Professional fees	9.7	8.3	1.4	17%	31.3	28.2	3.1	11%
Other, net	13.5	0.9	12.6	NM	48.6	29.0	19.7	68%
Depreciation	6.2	6.9	(0.8)	-11%	22.6	22.4	0.2	1%
	513.0	412.4	100.6	24%	1,858.2	1,595.1	263.1	16%

NM - Not meaningful

Overall expenses for the quarter ended December 31, 2017 increased 24%, or $100.6 million to $513.0 million, compared to $412.4 million during the same period in 2016. As a percentage of total revenue, expenses increased to 75% for the quarter ended December 31, 2017 from 73% for the same period in 2016. During the fiscal year ended December 31, 2017, expenses increased 16%, or $263.1 million to $1,858.2 million, compared to $1,595.1 million during the same period in 2016. As a percentage of total revenue, expenses were 75% for the fiscal year ended December 31, 2017 and 75% for the same period in 2016. The change in valuation of the US dollar against most major currencies in which the Company transacts business resulted in an approximate 3% increase in expenses for the three months ended December 31, 2017 and less than a 1% increase in expenses for the fiscal year ended December 31, 2017 compared to the comparable periods of 2016.

Staff expense – Staff expenses increased 22% or $60.9 million for the quarter ended December 31, 2017 and 17% or $177.9 million for the fiscal year ended December 31, 2017 over the same periods in 2016. Staff expense can be broken down into five key operating departments: Professional Services, Maintenance, Research and Development, Sales and Marketing, and General and Administrative. Included within staff expenses for each of the above five departments are personnel and related costs associated with providing the necessary services. The table below compares the period over period variances.

	Three months ended December 31,		Period-Over-Period Change		Year ended December 31,		Period-Over-Period Change	
	2017	2016	$	%	2017	2016	$	%
	($M, except percentages)				($M, except percentages)			
Professional services	72.8	61.5	11.3	18%	270.1	237.9	32.2	14%
Maintenance	67.3	57.1	10.2	18%	251.4	213.8	37.5	18%
Research and development	92.5	76.3	16.2	21%	341.4	294.1	47.2	16%
Sales and marketing	50.3	38.7	11.7	30%	180.9	147.9	33.0	22%
General and administrative	55.3	43.7	11.6	27%	193.1	165.3	27.9	17%
	338.1	277.2	60.9	22%	1,236.9	1,059.0	177.9	17%

The increase in staff expenses for the three and twelve months ended December 31, 2017 was primarily due to the growth in the number of employees compared to the same periods in 2016 primarily due to acquisitions.

Hardware expenses – Hardware expenses increased 41% or $8.5 million for the quarter ended December 31, 2017 and 13% or $10.4 million for the fiscal year ended December 31, 2017 over the same periods in 2016 as compared with the 30% and 13% increase in hardware and other revenue for the three and twelve month periods ending December 31, 2017 respectively over the comparable periods in 2016. Hardware margins for the three and twelve months ended December 31, 2017 were 42% and 45% respectively as compared to 47% and 44% for the comparable periods in 2016.

Third party license, maintenance and professional services expenses – Third party license, maintenance and professional services expenses increased 14% or $7.1 million for the quarter ended December 31, 2017 and 10% or $19.9 million for the fiscal year ended December 31, 2017 over the same periods in 2016. The increase is primarily due to third party license, maintenance and professional services expenses of acquired businesses.

Occupancy expenses – Occupancy expenses increased 9% or $1.3 million for the quarter ended December 31, 2017 and 14% or $7.2 million for the fiscal year ended December 31, 2017 over the same periods in 2016. The increase in occupancy expenses is primarily due to the occupancy expenses of acquired businesses.

Travel, Telecommunications, Supplies & Software and equipment expenses – Travel, Telecommunications, Supplies & Software and equipment expenses increased 28% or $9.6 million for the quarter ended December 31, 2017 and 19% or $24.9 million for the fiscal year ended December 31, 2017 over the same periods in 2016. The increase in these expenses is primarily due to expenses incurred by acquired businesses.

Professional fees – Professional fees increased 17% or $1.4 million for the quarter ended December 31, 2017 and 11% or $3.1 million for the fiscal year ended December 31, 2017 over the same periods in 2016. There are no individually material reasons contributing to this variance.

Other, net – Other expenses increased $12.6 million for the quarter ended December 31, 2017 and 68% or $19.7 million for the fiscal year ended December 31, 2017 over the same periods in 2016. The following table provides a further breakdown of expenses within this category.

	Three months ended December 31,		Period-Over-Period Change		Year ended December 31,		Period-Over-Period Change	
	2017	2016	$	%	2017	2016	$	%
	($M, except percentages)				($M, except percentages)			
Advertising and promotion	9.8	6.9	2.9	43%	32.4	26.0	6.4	25%
Recruitment and training	3.5	3.9	(0.4)	-10%	12.6	12.4	0.2	1%
Bad debt expense	0.7	0.2	0.6	292%	4.7	3.0	1.7	55%
R&D tax credits	(6.6)	(8.4)	1.8	-21%	(17.4)	(19.0)	1.6	-9%
Contingent consideration	1.9	(1.2)	3.0	NM	6.0	0.0	6.0	NM
Other expense, net	4.1	(0.5)	4.6	NM	10.3	6.5	3.8	58%
	13.5	0.9	12.6	NM	48.6	29.0	19.7	68%

NM - Not meaningful

The contingent consideration expense amounts recorded for the periods above relate to an increase (decrease) in anticipated acquisition earnout payment accruals primarily as a result of increases (decreases) to revenue forecasts for the associated acquisitions. Revenue forecasts are updated on a quarterly basis and the related anticipated acquisition earnout payment accruals are updated accordingly. The increase in other expense, net (per the table above) for the quarter ended December 31, 2017 is primarily related to a $3.2 million termination fee from Redknee Solutions Inc. ("Redknee") received and recorded in the quarter ended December 31, 2016, after Redknee terminated a subscription agreement they had entered into with the Company. A similar fee was not recorded in

2017. The advertising and promotion expense increase is primarily due to expenses incurred by acquired businesses. There are no individually material reasons contributing to the remaining variances.

Depreciation – Depreciation of property and equipment decreased 11% or $0.8 million for the quarter ended December 31, 2017 and increased 1% or $0.2 million for the fiscal year ended December 31, 2017 over the same periods in 2016. A $1.4 million expense related to the impairment of acquired leasehold improvements was recorded in the quarter ended December 31, 2016 with no similar expense recorded in 2017. There are no other individually material reasons contributing to the variance.

Other Income and Expenses:

The following table displays the breakdown of our other income and expenses:

	Three months ended December 31,		Period-Over-Period Change		Year ended December 31,		Period-Over-Period Change	
	2017	2016	$	%	2017	2016	$	%
	($M, except percentages)				($M, except percentages)			
Amortization of intangible assets	62.6	58.6	4.1	7%	230.5	190.6	39.9	21%
Foreign exchange (gain) loss	(2.3)	1.2	(3.5)	NM	8.6	26.0	(17.4)	-67%
TSS membership liability revaluation charge	9.6	7.7	1.9	25%	49.9	21.6	28.3	131%
Share in net (income) loss of equity investees	(0.2)	0.4	(0.6)	NM	(0.4)	(5.3)	4.9	-93%
Finance and other expense (income)	(1.5)	(7.6)	6.2	-81%	(3.2)	(10.8)	7.7	-71%
Bargain purchase gain	(4.9)	-	(4.9)	NM	(9.9)	-	(9.9)	NM
Finance costs	5.3	5.2	0.1	2%	24.8	21.6	3.2	15%
Income tax expense (recovery)	29.7	20.3	9.4	46%	98.9	79.6	19.3	24%
	98.4	85.7	12.7	15%	399.3	323.2	76.0	24%

NM - Not meaningful

Amortization of intangible assets – Amortization of intangible assets increased 7% or $4.1 million for the quarter ended December 31, 2017 and 21% or $39.9 million for the fiscal year ended December 31, 2017 over the same periods in 2016. The increase in amortization expense for the three and twelve months ended December 31, 2017 is primarily attributable to an increase in the carrying amount of our intangible asset balance over the twelve-month period ended December 31, 2017 as a result of acquisitions completed during this twelve-month period.

Foreign exchange – Most of our businesses are organized geographically so many of our expenses are incurred in the same currency as our revenues, which mitigates some of our exposure to currency fluctuations. For the three and twelve months ended December 31, 2017, we realized a foreign exchange gain of $2.3 million and loss of $8.6 million respectively compared to losses of $1.2 million and $26.0 million for the same periods in 2016. The following table provides a breakdown of these amounts.

	Three months ended December 31,		Period-Over-Period Change		Year ended December 31,		Period-Over-Period Change	
	2017	2016	$	%	2017	2016	$	%
	($M, except percentages)				($M, except percentages)			
Unrealized foreign exchange (gain) loss related to:								
- revaluation of intercompany loans between entities with differing functional currencies [(1)]	(1.5)	6.8	(8.2)	NM	(13.1)	17.7	(30.8)	NM
- revaulation of the Company's unsecured subordinated floating rate debentures as a result of the appreciation (depreciation) of the Canadian dollar against the US dollar.	(1.4)	(5.2)	3.8	-73%	15.8	7.0	8.9	127%
Remaining foreign exchange (gain) loss	0.6	(0.4)	1.0	NM	5.9	1.3	4.6	348%
	(2.3)	1.2	(3.5)	NM	8.6	26.0	(17.4)	-67%

NM - Not meaningful

(1) Offsetting amounts recorded in other comprehensive income. Net impact to Total comprehensive income for each period is nil.

The remaining foreign exchange gains and losses per the table above are primarily related to the unrealized foreign exchange translation gains and losses of certain net Canadian dollar denominated liability balances to US dollars as a result of the Canadian dollar's depreciation or appreciation against the US dollar.

TSS membership liability revaluation charge – The valuation of the TSS membership liability that was put in place in Q4 2014 increased by approximately 25% from Q3 2017 or $9.6 million, and increased by approximately 131% from Q4 2016 or $49.9 million. The increases are primarily the result of an increase in the net tangible assets of TSS and the growth in TSS' reported trailing twelve month maintenance revenue, which are the two main drivers in the calculation of the liability, which increased primarily due to acquisitions. The liability increased less for the three and twelve months ended December 31, 2016 over Q3 2016 and Q4 2015 respectively, as TSS' growth in net tangible assets and reported trailing twelve month maintenance revenue for those periods was less primarily as a result of lower acquisition activity. The liability recorded on the balance sheet increased by 86% or $62.9 million over the twelve month period ended December 31, 2017 from $72.9 million to $135.8 million as a result of the revaluation charge of $49.9 million and a $13.0 million foreign exchange loss that was recorded through other comprehensive income. The TSS membership liability is denominated in Euros and the Euro appreciated 14% versus the US dollar during the 2017 fiscal year.

Share in net (income) loss of equity investees – Share in the net (income) loss of equity investees was income of $0.2 million and $0.4 million for the three and twelve month periods ended December 31, 2017 respectively, compared to loss of $0.4 million and income of $5.3 million for the same periods in 2016. The primary reason for the decrease in profitability for the twelve month period was a gain on disposal of assets realized by an equity investee in the twelve months ended December 31, 2016 with no similar gain recorded for the same period in 2017.

Finance and other expense (income) – Finance and other income decreased 81% or $6.2 million for the quarter ended December 31, 2017 and 71% or $7.7 million for the fiscal year ended December 31, 2017 over the same periods in 2016. Realized losses of $nil and $1.5 million relating to the sale of available-for-sale equity securities were recorded for the three and twelve month periods ended December 31, 2017 respectively, compared to realized gains of $2.7 million and $5.2 million recorded for the same periods in 2016. Income of $4.2 million was recorded during the three and twelve month periods ended December 31, 2016 relating to acquired net tangible asset adjustments for acquisitions recorded subsequent to the finalization of purchase accounting. No similar amounts were recorded in 2017. Interest earned on cash balances totalling $1.3 million and $4.1 million was recorded for the three and twelve month periods ended December 31, 2017 respectively, compared to $0.5 million and $0.8 million recorded for the same periods in 2016, in line with the increase in cash balances in 2017 as compared to 2016, offsetting the aforementioned declines.

Bargain purchase gain – Bargain purchase gains totalling $4.9 million and $9.9 million were recorded in the three and twelve month periods ended December 31, 2017 that arose on several of the acquisitions made during 2017 because the fair value of the separately identifiable assets and liabilities exceeded the total consideration paid, principally due to the acquisition of certain assets that will benefit the Company that had limited value to the seller. No similar gain was recognized in 2016.

Finance costs – Finance costs increased 2% or $0.1 million for the quarter ended December 31, 2017 and 15% or $3.2 million for the fiscal year ended December 31, 2017 over the same periods in 2016. The increase in finance costs for the twelve months ended December 31, 2017 is primarily attributable to an increase in the amortization of debt related transaction costs of $3.2 million over the same period in 2016, resulting from the full repayment and extinguishment of the CNH facility described in further detail below. (See "Bank Indebtedness")

Income taxes – We operate globally and we calculate our tax provision in each of the jurisdictions in which we conduct business. Our effective tax rate on a consolidated basis is, therefore, affected by the realization and anticipated relative profitability of our operations in those various jurisdictions, as well as different tax rates that apply and our ability to utilize tax losses and other credits. For the quarter ended December 31, 2017, income tax expense increased $9.4 million to $29.7 million compared to $20.3 million for the same period in 2016. During the fiscal year ended December 31, 2017, income tax expense increased $19.3 million to $98.9 million compared to $79.6 million for the same period in 2016. Current tax expense as a percentage of adjusted net income before tax was 16% and 19% for the three and twelve months ended December 31, 2017 respectively, and 17% and 18% respectively for the same periods in 2016. This rate has historically approximated our cash tax rate however the quarterly rate can sometimes fall outside of the annual range due to out of period adjustments. As a result of the depletion of tax credits available to certain of our Canadian entities and a proportionately higher level of profitability in the US, the annual rate has gradually increased since 2013. The United States Tax Cuts and Jobs Act (U.S. Tax Reform) was enacted on December 22, 2017 and became effective January 1, 2018. We believe there will be a net reduction to our current tax expense as a result of the reform. Current tax expense reflects gross taxes before the application of R&D tax credits which are classified as part of "other, net" expenses in the statement of income. Deferred income tax expense increased $8.2 million and decreased $2.2 million for the three and twelve months ended December 31, 2017 respectively, resulting from various items including changes in recognition of certain deferred income tax assets.

Constellation is subject to tax audits in the countries in which the Company carries on business globally. These tax audits could result in additional tax expense in future periods relating to historical filings. Reviews by tax authorities generally focus on, but are not limited to, the validity of the Company's inter-company transactions, including financing and transfer pricing policies which generally involve subjective areas of taxation and a significant degree of judgment. If any of these tax authorities are successful with their challenges, the Company's income tax expense may be adversely affected and Constellation could also be subject to interest and penalty charges.

Net Income and Earnings per Share:

Net income for the quarter ended December 31, 2017 was $76.1 million compared to net income of $65.7 million for the same period in 2016. On a per share basis this translated into a net income per diluted share of $3.59 in the quarter ended December 31, 2017 compared to net income per diluted share of $3.10 for the same period in 2016. For the 2017 fiscal year, net income was $222.0 million or $10.47 per diluted share compared to $206.8 million or $9.76 per diluted share for the same period in 2016. There was no change in the number of shares outstanding.

Adjusted EBITA:

For the quarter ended December 31, 2017, Adjusted EBITA increased to $174.5 million compared to $151.4 million for the same period in 2016 representing an increase of 15%. Adjusted EBITA margin was 25% for the

quarter ended December 31, 2017 and 27% for the same period in 2016. For the 2017 fiscal year, Adjusted EBITA increased to $621.2 million compared to $530.0 million during the same period in 2016, representing an increase of 17%. Adjusted EBITA margin was 25% in the 2017 fiscal year and 25% for the same period in 2016. See "Non-IFRS Measures" for a description of Adjusted EBITA and Adjusted EBITA margin.

The following table reconciles Adjusted EBITA to net income:

	Three months ended December 31,		Year ended December 31,	
	2017	2016	2017	2016
	($M, except percentages)		($M, except percentages)	
Total revenue	687.6	563.8	2,479.4	2,125.1
Net income	76.1	65.7	222.0	206.8
Adjusted for:				
Income tax expense (recovery)	29.7	20.3	98.9	79.6
Foreign exchange (gain) loss	(2.3)	1.2	8.6	26.0
TSS membership liability revaluation charge	9.6	7.7	49.9	21.6
Share in net (income) loss of equity investees	(0.2)	0.4	(0.4)	(5.3)
Finance and other income	(1.5)	(7.6)	(3.2)	(10.8)
Bargain purchase gain	(4.9)	-	(9.9)	-
Finance costs	5.3	5.2	24.8	21.6
Amortization of intangible assets	62.6	58.6	230.5	190.6
Adjusted EBITA	174.5	151.4	621.2	530.0
Adjusted EBITA margin	25%	27%	25%	25%

Certain totals and percentages may not reconcile due to rounding.

Adjusted net income:

For the quarter ended December 31, 2017, Adjusted net income increased to $140.6 million from $121.8 million for the same period in 2016, representing an increase of 15%. Adjusted net income margin was 20% for the quarter ended December 31, 2017 and 22% for the same period in 2016. For the 2017 fiscal year, Adjusted net income increased to $462.9 million from $395.0 million during the same period in 2016, representing an increase of 17%. Adjusted net income margin was 19% in the 2017 fiscal year and 19% for the same period in 2016. See "Non-IFRS Measures" for a description of Adjusted net income and Adjusted net income margin.

Non-controlling interest in the Adjusted net income of TSS - As explained in the "Capital Resources and Commitments" section below, in Q4 2014 33.29% of the voting interests in TSS were sold by us, however no adjustment has been made in the Company's Consolidated Financial Statements to reflect the 33.29% of earnings that are not attributable to Constellation shareholders. Instead, due to an option available to the minority owners to exercise a put option to sell all or a portion of their interests back to Constellation, the minority interest is accounted for as a liability on the Company's balance sheet. The liability is revalued at each period end in accordance with an agreed upon valuation methodology with the change being included in net income. The non-controlling interest in the Adjusted net income of TSS for the three and twelve months ended December 31, 2017 was $6.2 million and $22.0 million respectively, as compared to $5.4 million and $18.7 million for the same periods in 2016.

The following table reconciles Adjusted net income to Net income:

	Three months ended December 31, 2017	Three months ended December 31, 2016	Year ended December 31, 2017	Year ended December 31, 2016
	($M, except percentages)		($M, except percentages)	
Total revenue	687.6	563.8	2,479.4	2,125.1
Net income	76.1	65.7	222.0	206.8
Adjusted for:				
Amortization of intangible assets	62.6	58.6	230.5	190.6
TSS membership liability revaluation charge	9.6	7.7	49.9	21.6
Bargain purchase gain	(4.9)	-	(9.9)	-
Less non-controlling interest in the Adjusted net income of TSS	(6.2)	(5.4)	(22.0)	(18.7)
Deferred income tax expense (recovery)	3.4	(4.8)	(7.6)	(5.3)
Adjusted net income	140.6	121.8	462.9	395.0
Adjusted net income margin	20%	22%	19%	19%

Certain totals and percentages may not reconcile due to rounding.

Quarterly Results

	Dec. 31 2015	Mar. 31 2016	Jun. 30 2016	Sep. 30 2016	Dec. 31 2016	Mar. 31 2017	Jun. 30 2017	Sep. 30 2017	Dec. 31 2017
	Quarter Ended ($M, except per share amounts)								
Revenue	511.6	487.0	528.7	545.6	563.8	555.3	600.1	636.5	687.6
Net income	66.0	18.7	55.0	67.5	65.7	40.4	51.2	54.3	76.1
Adjusted net income	117.7	62.5	89.9	120.7	121.8	94.5	112.3	115.5	140.6
Adjusted net income margin	23%	13%	17%	22%	22%	17%	19%	18%	20%
Net income per share									
Basic & diluted	3.11	0.88	2.60	3.18	3.10	1.91	2.41	2.56	3.59
Adjusted net income per share									
Basic & diluted	5.55	2.95	4.24	5.70	5.75	4.46	5.30	5.45	6.63

We experience seasonality in our operating results in that Adjusted net income margins in the first quarter of every year are typically lower than margins achieved in the second, third and fourth quarters. The key drivers for the lower margins are increased payroll tax costs associated with our annual bonus payments that are made in the month of March, and the fact that historically there has been a consistent focus at year end to complete sales implementation projects which generally translates into increased professional services revenue in the fourth quarter and decreased professional services revenue in the first quarter. Our quarterly results may also fluctuate as a result of the various acquisitions which may be completed by the Company in any given quarter. We may experience variations in our net income on a quarterly basis depending upon the timing of certain expenses or gains, which may include changes in provisions, acquired contract liabilities, foreign exchange gains and losses, bargain purchase gains, and gains or losses on the sale of financial and other assets.

Liquidity

Our net cash position (cash less bank indebtedness excluding capitalized transaction costs) increased by $163.4 million to $390.7 million in the fiscal year ended December 31, 2017 resulting from cash flows from operations exceeding capital deployed on acquisitions. Bank indebtedness decreased by $28.0 million as the CNH Facility (as defined below) was fully repaid and replaced with a New CNH Facility (as defined below). In addition, cash increased by $135.5 million to $489.0 million at December 31, 2017 compared to $353.5 million at December 31, 2016.

Total assets increased $404.8 million, from $1,883.5 million at December 31, 2016 to $2,288.2 million at December 31, 2017. The increase is primarily due to an increase in cash of $135.5 million, accounts receivable of $73.0 million, and intangible assets of $187.6 million primarily relating to acquisitions made since December 31, 2016. At December 31, 2017 TSS held a cash balance of $24.5 million. As explained in the "Capital Resources and Commitments" section below, there are limitations on TSS' ability to distribute funds to Constellation.

Current liabilities increased $299.0 million, from $873.2 million at December 31, 2016 to $1,172.1 million at December 31, 2017. The increase is primarily due to an increase in the current portion of bank indebtedness of $89.0 million, accounts payable and accrued liabilities of $87.9 million, and deferred revenue of $80.1 million mainly due to acquisitions made since December 31, 2016 and the timing of maintenance and other billings versus performance and delivery under those customer arrangements.

Net Changes in Cash Flows
(in $M's)

	Year ended December 31, 2017	Year ended December 31, 2016
Net cash provided by operating activities	527.8	490.9
Net cash from (used in) financing activities	(152.7)	(117.6)
Net cash from (used in) acquisition activities	(256.0)	(178.1)
Net cash from (used in) other investing activities	6.1	(16.6)
Net cash from (used in) investing activities	(249.9)	(194.7)
Effect of foreign currency	10.3	(3.6)
Net increase (decrease) in cash and cash equivalents	**135.5**	**175.0**

The net cash flows from operating activities were $527.8 million for the fiscal year ended December 31, 2017. The $527.8 million provided by operating activities resulted from $222.0 million in net income plus $421.8 million of non-cash adjustments to net income, offset by $15.1 million of cash utilized from non-cash operating working capital and $100.9 million in taxes paid.

The net cash flows used in financing activities in the fiscal year ended December 31, 2017 were $152.7 million, which is mainly a result of dividends paid of $84.8 million, interest paid of $22.1 million on bank indebtedness and the Company's unsecured subordinated floating rate debentures, and the full principal repayment of $138.2 million on the CNH Facility (as defined below), offset by net borrowings under the New CNH Facility (as defined below) of $94.8 million.

The net cash flows used in investing activities in the fiscal year ended December 31, 2017 were $249.9 million. The cash used in investing activities was primarily due to acquisitions for an aggregate of $256.0 million (including payments for holdbacks relating to prior acquisitions). Cash from other investing activities included $18.8 million of proceeds received from the sale of an equity accounted investee.

We believe we have sufficient cash and available credit capacity to continue to operate for the foreseeable future. Generally our VMS businesses operate with negative working capital as a result of the collection of maintenance payments and other revenues in advance of the performance of the related services. As such, management anticipates that it can continue to grow the business organically without any additional funding. If we continue to acquire VMS businesses we may need additional external funding depending upon the size and timing of the potential acquisitions.

Capital Resources and Commitments

Bank Indebtedness

On October 27, 2017, we completed an amendment and restatement of our revolving credit facility agreement (the "CSI Facility") with a syndicate of Canadian chartered banks and U.S. banks in the amount of $460 million, extending its maturity date to October 27, 2022. The CSI Facility bears a variable interest rate with no fixed repayments required over the term to maturity. Interest rates are calculated at standard U.S. and Canadian reference rates plus interest rate spreads based on a leverage table. The CSI Facility is currently collateralized by the majority of our assets including the assets of certain material subsidiaries. The CSI Facility contains standard events of default which if not remedied within a cure period would trigger the repayment of any outstanding balance. The CSI Facility is available for acquisitions, distributions, working capital needs, and other general corporate purposes and for the needs of our subsidiaries. As at December 31, 2017, no amounts were drawn on the CSI Facility, and letters of credit totalling $17.1 million were issued, which limits the borrowing capacity on a dollar-for-dollar basis. Transaction costs associated with this CSI Facility are being amortized through profit or loss using the effective interest rate method. As at December 31, 2017, the carrying amount of such costs totalling $1.2 million has been classified as part of other non-current assets in the statement of financial position.

On June 24, 2014 Constellation Software Netherlands Holding Cooperatief U.A. ("CNH"), a subsidiary of Constellation and the indirect owner of 100% of TSS, entered into a €150 million term and €10 million multicurrency revolving credit facility (the "CNH Facility") with a number of European and North American financial institutions. The CNH Facility bears interest at a rate calculated at EURIBOR plus interest rate spreads based on a leverage table. The CNH Facility is collateralized by substantially all of the assets owned by CNH and its subsidiaries which includes substantially all of the assets of TSS and its subsidiaries. The CNH Facility contains standard events of default which if not remedied within a cure period would trigger the repayment of any outstanding balance. On July 14, 2017 (in conjunction with the issuance of the New CNH Facility, as defined below), the principal outstanding on the term loan of €116.5 million was repaid in full and the CNH Facility was extinguished. Unamortized transaction costs of $3.3 million associated with the CNH Facility have been included in profit or loss for the year ended December 31, 2017.

On July 14, 2017, CNH entered into a new credit facility (the "New CNH Facility") with a number of European financial institutions. Under this credit facility, CNH is able to borrow up to €300 million under a multicurrency revolving loan facility and up to €50 million under an additional uncommitted term loan facility. The New CNH Facility has an initial term of five years with an extension option for two additional one year periods. The New CNH Facility bears interest at a rate calculated at EURIBOR plus interest rate spreads based on a leverage table. The New CNH Facility is collateralized by substantially all of the assets owned by CNH and its subsidiaries which includes substantially all of the assets of TSS and its subsidiaries. The New CNH Facility contains standard events of default which if not remedied within a cure period would trigger the repayment of any outstanding balance. As at December 31, 2017, $98.2 million (€82.0 million) had been drawn from this credit facility. Transaction costs associated with the New CNH Facility have been included as part of the carrying amount of the liability and are being amortized through profit or loss using the effective interest rate method. Amortized costs recognized in the three and twelve months ended December 31, 2017 relating to this facility amounted to $0.1 million and $0.2 million respectively. As at December 31, 2017, the carrying amount of such costs relating to this facility totaling approximately $1.8 million (€1.5 million) has been classified as part of the New CNH Facility in the consolidated statement of financial position.

The CSI Facility and New CNH Facility are independent of each other. The New CNH Facility is not guaranteed by Constellation or its subsidiaries nor is Constellation or any subsidiary subject to the terms of the New CNH Facility other than, in each case, CNH and its subsidiaries. Similarly, CNH and its subsidiaries did not guarantee the CSI Facility and are not subject to the provisions thereof. The CSI Facility imposes limitations on the aggregate amount of investment that Constellation may make in CNH and its subsidiaries and the financial results of CNH and its subsidiaries are not included for the purposes of determining compliance by Constellation with the financial covenants in the CSI Facility. The New CNH Facility imposes limitations on the amount of distributions that CNH and its subsidiaries may make to Constellation.

Debentures

On October 1, 2014 and November 19, 2014, the Company issued unsecured subordinated debentures (the "Debentures") with a total principal value of C$96.0 million for total proceeds of C$91.2 million. The proceeds were used by the Company to pay down $81.2 million of outstanding bank indebtedness.

On September 30, 2015, the Company issued an additional tranche of Debentures with a total principal value of C$186.2 million for total proceeds of C$214.2 million. The proceeds were used by the Company to pay down $130.4 million of outstanding bank indebtedness. The September 30, 2015 issuance formed a single series with the outstanding C$96.0 million aggregate principal amount of Debentures, Series 1 of the Company. The Debentures have a maturity date of March 31, 2040.

TSS Membership Liability

On December 23, 2014, in accordance with the terms of the purchase and sale agreement for the TSS acquisition, and on the basis of the term sheets attached thereto, Constellation and the sellers of TSS along with members of TSS' executive management team (collectively, the "minority owners") entered into a Members Agreement pursuant to which the minority owners acquired 33.29% of the voting interests in CNH. Proceeds from this transaction in the amount of $48.5 million (€39.4 million) were utilized to repay, in part, outstanding bank indebtedness of Constellation. In accordance with IFRS, 100% of the financial results for TSS are included in the consolidated financial results of the Company.

Each of the minority owners may, at any time, exercise a put option to sell all or a portion of their interests in CNH back to Constellation for an amount calculated in accordance with a valuation methodology described within the Members Agreement. Accordingly, the Company classified the proceeds from the Members Agreement as a liability. The main valuation driver in such calculation is the maintenance and other recurring revenue of CNH. Upon the exercise of a put option, Constellation would be obligated to redeem up to 33.33% of the minority owners' interests put, no later than 30 business days from the date notice is received (classified as a current liability), and up to 33.33% on each of the first and second anniversary of the date the first redemption payment is made.

The seller of TSS also has an option available to it to sell approximately 68% of its interests in CNH, for an amount calculated in accordance with a valuation methodology described within the Members Agreement, in the event that Robin Van Poelje, TSS' CEO, is no longer employed by TSS. The approximately 32% remaining interest can be sold via the put option described above.

In the event of a change of control in Constellation, the minority owners would have the option to sell 100% of their interests in CNH for an amount calculated in accordance with a valuation methodology described within the Members Agreement. Constellation would be obligated to remit payment in respect thereof no later than 30 business days from the date notice is given.

Commencing at any time after December 31, 2023, Constellation may exercise a call option to purchase all of the minority owners' interests in CNH, for an amount calculated in accordance with a valuation methodology described within the Members Agreement. Upon exercise of the call option, the full purchase price will be paid

within 30 business days of the notice date, following which the minority owners' membership in CNH will be terminated. There is a valuation premium if the call option is exercised versus the put option.

If any of TSS' executive management team that participate in the Members Agreement are terminated for urgent cause as defined in Section 7:678 of the Dutch Civil Code, Constellation shall have the right to purchase all of the interests beneficially owned by the terminated executive for an amount calculated in accordance with the valuation methodology described within the Members Agreement. The full purchase price will be paid within 30 business days from the date notice is given, following which the terminated executive's membership in CNH will be terminated. An option does exist for the terminated executive to elect to be paid in annual installments of 33.33% of his interests in CNH over a 3 year period. The valuation of the interests being purchased will be calculated at each annual payment date.

Other commitments

Commitments include operating leases for office equipment and facilities, letters of credit and performance bonds issued on our behalf by financial institutions in connection with facility leases and contracts with public sector customers. Also, occasionally we structure some of our acquisitions with contingent consideration based on the future performance of the acquired business. The fair value of contingent consideration recorded in our statement of financial position was $24.7 million at December 31, 2017. Aside from the aforementioned, we do not have any other business arrangements, derivative financial instruments, or any equity interests in non-consolidated entities that would have a significant effect on our assets and liabilities as at December 31, 2017.

(in millions of dollars)

	Total	< 1 yr	1-5 yrs	> 5 yrs
Operating and capital leases	248.5	69.4	144.7	34.4
Holdbacks	49.3	42.9	6.5	-
TSS membership liability	135.8	49.2	86.6	-
Debentures	224.9	-	-	224.9
Bank indebtedness	98.2	98.2	-	-
Total outstanding commitments	756.7	259.7	237.8	259.3

The TSS membership liability commitment assumes that the minority owners have exercised their put option to sell 100% of their interests back to Constellation. This option however has not been exercised as at February 14, 2018. See the "Critical Accounting Estimate" section of the Company's 2017 Annual Consolidated Financial Statements for a discussion on the valuation methodology utilized.

Foreign Currency Exposure

We operate internationally and have foreign currency risks related to our revenue, operating expenses, assets and liabilities denominated in currencies other than the U.S. dollar. Consequently, we believe movements in the foreign currencies in which we transact will impact future revenue and net earnings. Our analysis related to the change in average exchange rates from 2016 to 2017 suggests that the impact to Adjusted EBITA margins for both the three and twelve months ended December 31, 2017 was less than 1%. The impact to organic revenue growth for the three and twelve months ended December 31, 2017 was approximately positive 2.8% and 0.3% respectively. We cannot predict the effect of foreign exchange gains or losses in the future; however, if significant foreign exchange losses are experienced, they could have a material adverse effect on our business, revenues, results of operations, and financial condition. The Company enters into forward foreign exchange contracts from time to time with the objective of mitigating volatility in profit or loss in respect of financial liabilities. In entering into these forward exchange contracts, the Company is exposed to the credit risk of the counterparties to such contracts and the possibility that the counterparties will default on their payment obligations under these contracts. However, given that the counterparties are Schedule 1 banks or affiliates thereof, the Company believes these risks are not material. During the twelve months ended December 31, 2017, the Company did not purchase any contracts of this nature.

The following table provides an approximate breakdown of our revenue and expenses by currency, expressed as a percentage of total revenue and expenses, as applicable, for the three and twelve months ended December 31, 2017:

	Three Months Ended December 31, 2017		Year Ended December 31, 2017	
Currencies	% of Revenue	% of Expenses	% of Revenue	% of Expenses
USD	55%	47%	57%	50%
CAD	5%	12%	6%	12%
GBP	7%	8%	7%	7%
EURO	21%	21%	20%	21%
CHF	1%	3%	0%	2%
Others	11%	9%	10%	8%
Total	100%	100%	100%	100%

Off-Balance Sheet Arrangements

As a general practice, we have not entered into off-balance sheet financing arrangements. Except for operating leases and letters of credit, all of our liabilities and commitments are reflected as part of our statement of financial position.

Proposed Transactions

We seek potential acquisition targets on an ongoing basis and may complete several acquisitions in any given fiscal year.

Critical Accounting Estimates

General

The preparation of our consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. Our estimates are based on historical experience and on various other assumptions that are believed to be reasonable under the circumstances. Our ongoing evaluation of these estimates forms the basis for making judgments about the carrying values of assets and liabilities and the reported amount of revenues and expenses, in cases where they are not readily ascertainable from other sources. Actual amounts may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are fully described in Note 3 to our annual consolidated financial statements which are available on SEDAR (www.sedar.com). Certain accounting policies are particularly important to the reporting of our financial position and results of operations, and require the application of significant judgment by our management. An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different, estimates that reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could have a material impact on the financial statements. Management believes the following critical accounting policies reflect the more significant estimates and assumptions used in the preparation of our consolidated financial statements. We believe that there have been no significant changes in our critical accounting estimates for the years presented in our consolidated financial statements.

Revenue Recognition

Revenue represents the fair value of consideration received or receivable from customers for goods and services provided by the Company, net of discounts and sales taxes. The Company reports revenue under four

revenue categories being, License, Hardware and other, Professional services, and Maintenance and other recurring revenue.

Typically, the Company's software license agreements are multiple-element arrangements as they may also include maintenance, professional services, and hardware. Multiple-element arrangements are recognized as the revenue for each unit of accounting is earned based on the relative fair value of each unit of accounting as determined by an internal analysis of prices or by using the residual method. A delivered element is considered a separate unit of accounting if it has value to the customer on a standalone basis, and delivery or performance of the undelivered elements is considered probable and substantially under the Company's control. If these criteria are not met, revenue for the arrangement as a whole is accounted for as a single unit of accounting. Where company-specific objective evidence of fair value cannot be determined for undelivered elements, the Company determines fair value of the respective element by estimating its stand-alone selling price, which is also applied for the presentation as part of the revenue categories noted above when certain of those elements are deemed to be a single unit of accounting.

The Company typically sells or licenses software on a perpetual basis, but also licenses software for a specified period. Revenue from short-term time-based licenses, which usually include support services during the license period, is recognized rateably over the license term. Revenue from multi-year time-based licenses that include support services, whether separately priced or not, is recognized rateably over the license term unless a substantive support service renewal rate exists; if this is the case, the amount allocated to the delivered software is recognized as license revenue based on the residual approach once the revenue criteria have been met. In those instances where the customer is required to renew mandatory support and maintenance in order to maintain use of the licensed software over the license term, the Company recognizes the consideration attributable to the license and support for the initial term of the arrangement over the initial term and recognizes revenue for the support renewal fees in subsequent years over the respective renewal periods.

Revenue from the license of software involving significant implementation or customization essential to the functionality of the Company's product, or from the sales of hardware where software is essential to its functionality, is recognized under the percentage-of-completion method of contract accounting based either on the achievement of contractually defined milestones or based on labour hours. Any probable losses are recognized immediately in profit or loss. In certain situations where the outcome of an arrangement cannot be estimated reliably, costs associated with the arrangement are recognized as incurred. In this situation, revenues are recognized only to the extent of the costs incurred that are probable of recovery.

A portion of the Company's sales, categorized as hardware and other revenue, are accounted for as product revenue. Product revenue is recognized when the Company has an executed agreement, the product has been delivered and costs can be measured reliably, the amount of the fee to be paid by the customer is fixed and determinable, and the collection of the related receivable is deemed probable from the outset of the arrangement. If for any of the product or service offerings, the Company determines at the outset of an arrangement that the amount of revenue cannot be measured reliably, and the Company concludes that the inflow of economic benefits associated with the transaction is not probable, then the revenue is deferred until the arrangement fee becomes due and payable by the customer. If, at the outset of an arrangement, the Company determines that collectability is not probable, and the Company concludes that the inflow of economic benefits associated with the transaction is not probable, then revenue recognition is deferred until the earlier of when collectability becomes probable or payment is received. If collectability becomes unlikely before all revenue from an arrangement is recognized, the Company recognizes revenue only to the extent of the fees that are successfully collected unless collectability becomes reasonably assured again. If a customer is specifically identified as a collection risk, the Company does not recognize revenue except to the extent of the fees that have already been collected.

Revenue related to the customer reimbursement of travel related expenses incurred during a project implementation is included in the hardware and other revenue category. Revenue is recognized as costs are incurred which is consistent with the period in which the costs are invoiced. Reimbursable travel expenses incurred for which an invoice has not been issued, are recorded as part of work in progress on the statement of financial position.

Maintenance and other recurring revenue primarily consists of fees charged for customer support on software products post-delivery and also includes, to a lesser extent, recurring fees derived from combined software/support contracts, transaction revenues, managed services, and hosted products. The company-specific fair value of maintenance is typically derived from rates charged to renew these services after an initial period. Maintenance revenue remaining to be recognized in profit or loss is recognized as deferred revenue in the statements of financial position when amounts have been billed in advance and the term of the service period has commenced.

Professional Services revenue including implementation, training and customization of software is recognized by the stage of completion of the arrangement determined using the percentage of completion method noted above or as such services are performed as appropriate in the circumstances. The revenue and profit of fixed price contracts is recognized on a percentage of completion basis when the outcome of a contract can be estimated reliably. When the outcome of the contract cannot be estimated reliably, the amount of revenue recognized is limited to the cost incurred in the period. Losses on contracts are recognized as soon as a loss is foreseen by reference to the estimated costs of completion.

Management exercises judgement in determining whether a contract's outcome can be estimated reliably. Management also applies estimates in the calculation of future contract costs and related profitability as it relates to labour hours and other considerations, which are used in determining the value of amounts recoverable on contracts and timing of revenue recognition. Estimates are continually and routinely revised based on changes in the facts relating to each contract. Judgement is also needed in assessing the ability to collect the corresponding receivables.

The timing of revenue recognition often differs from contract payment schedules, resulting in revenue that has been earned but not billed. These amounts are included in work in progress. Amounts billed in accordance with customer contracts, but not yet earned, are recorded and presented as part of deferred revenue.

Valuation of Identifiable Goodwill and Other Intangible Assets

Acquisitions have been accounted for using the acquisition method required by IFRS 3. Goodwill arising on acquisitions is measured as the fair value of the consideration transferred including the recognized amount of any non-controlling interest in the acquiree, if any, less the net recognized amount of the estimated fair value of identifiable assets acquired and liabilities assumed (subject to certain exemptions to fair value measurement principles such as deferred tax assets or liabilities), all measured as of the acquisition date. When the excess of the consideration transferred less the assets and liabilities acquired is negative, a bargain purchase gain is recognized immediately in profit or loss. Transaction costs that the Company incurs in connection with a business combination are expensed as incurred.

We use the income approach to value acquired technology and customer related intangible assets, which are the two material intangible asset categories reported in our financial statements.

The income approach is a valuation technique that calculates the fair value of an intangible asset based on the cash flows that the asset can be expected to generate over its remaining useful life. We utilize the discounted cash flow ("DCF") methodology which is a form of the income approach that begins with a forecast of the annual cash flows a market participant would expect the subject intangible asset to generate over a discrete projection period. The forecasted cash flows for each of the years in the discrete projection period are then converted to their present value equivalent using a rate of return appropriate for the risk of achieving the intangible assets' projected cash flows, again, from a market participant perspective. The present value of the forecasted cash flows are then added to the present value of the residual value of the intangible asset (if any) at the end of the discrete projection period to arrive at a conclusion with respect to the estimated fair value of the subject intangible asset.

Specifically, we rely on the relief-from-royalty method to value the acquired technology and the multiple-period excess earnings method ("MEEM") to value customer relationship assets.

The underlying premise of the relief-from-royalty method is that the fair value of the technology is equal to the costs savings (or the "royalty avoided") resulting from the ownership of the asset by the avoidance of paying royalties to license the use of the technology from another owner. Accordingly the income forecast reflects an estimate of a fair royalty that a licensee would pay, on a percentage of revenue basis, to obtain a license to utilize the technology.

The MEEM method isolates the cash flows attributable to the subject asset by utilizing a forecast of expected cash flows less the returns attributable to other enabling assets, both tangible and intangible.

Goodwill is initially recorded when the purchase price paid for an acquisition exceeds the fair value assigned to the net identifiable tangible and intangible assets acquired. Goodwill is not amortized but rather it is periodically assessed for impairment.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses, with the carrying value being reviewed for impairment at least annually and whenever events or changes in circumstances indicate that the carrying value may be impaired. We perform an annual review in the fourth quarter of each fiscal year, or more frequently if indicators of potential impairment exist, to determine if the recorded goodwill is impaired. In respect of equity accounted investees, the carrying amount of goodwill is included in the carrying amount of the investment, and an impairment loss on such an investment is not allocated to any asset, including goodwill, that forms part of the carrying amount of the equity accounted investee. No such losses have been recognized during the year.

The impairment test methodology is based on a comparison between the higher of fair value less costs to sell and value-in-use of each of the Company's business units (considered as the grouping of cash generating units at which level the impairment test is performed) and the net asset carrying values (including goodwill) of the Company's business units. Within the Company's reporting structure, business units generally reflect one level below the six operating segments (Volaris, Harris, Total Specific Solutions, Jonas, Perseus (previously known as Homebuilder), and Vela Operating Groups). In determining the recoverable amount, the Company applies an estimated market valuation multiple to the business unit's most recent annual recurring revenues, which are derived from combined software/support contracts, transaction revenues, and hosted products. Valuation multiples applied by management for this purpose reflect current conditions specific to the business unit and are assessed for reasonability by comparison to the Company's current and past experience of ranges of multiples required to acquire representative software companies. In addition, in certain instances, the recoverable amount is determined using a value-in-use approach which follows the same valuation process that is undertaken for the Company’s business acquisitions. An impairment is recognized if the carrying amount of a cash generating unit exceeds its estimated recoverable amount.

We also review the carrying value of amortizable intangible assets for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. Any change in estimate which causes the undiscounted expected future cash flows to be less than the carrying value, would result in an impairment loss being recognized equal to the amount by which the carrying value of the asset exceeds the fair value of the asset.

The critical accounting estimates described above affect both the public and private segments of the business. The approach taken by management in performing these estimates is not significantly different between segments.

TSS Membership Liability

Commencing any time after December 31, 2014, each of the minority owners may exercise a put option to sell all or a portion of their interests in CNH back to Constellation for an amount calculated in accordance with a valuation methodology described within the Members Agreement. Accordingly, the Company classified the

proceeds from the membership agreement as a liability. The main valuation driver in such calculation is the maintenance and other recurring revenue of CNH. Upon the exercise of a put option, Constellation would be obligated to redeem up to 33.33% of the minority owners' interests put, no later than 30 business days from the date notice is received, and up to 33.33% on each of the first and second anniversary of the date the first redemption payment is made.

In determining the valuation of the liability at December 31, 2017 we assumed the minority owners exercised their put option on December 31, 2017, and redeemed 33.33% of their interests on exercise, and will redeem 33.33% on each of the first and second anniversary dates. Maintenance and recurring revenue of CNH for the fiscal year ended December 31, 2017 was used as the basis for valuing the interests at each redemption date. A similar approach will be utilized to value any interests that have not been put or called at the end of each subsequent reporting period. However, the actual maintenance and recurring revenue of CNH for the trailing twelve months from the date of the related reporting period end will be utilized in the calculation. Any increase or decrease in the value of the membership liability will be recorded as an expense or income respectively in the Consolidated Statements of Income for the period.

Accounting for Income Taxes

Significant management judgment is required in determining our provision for income taxes, our income tax assets and liabilities, and any valuation allowance recorded against our net income tax assets. We operate in multiple geographic jurisdictions, and to the extent that we have profits in each jurisdiction, these profits are taxed pursuant to the tax laws of their jurisdiction. Our effective tax rate may be affected by changes in, or interpretations of, tax laws in any given jurisdiction, the level of profitability, utilization of net operating losses and tax credit carry forwards, changes in geographical mix of income and expense, and changes in management's assessment of matters, such as the ability to realize future tax assets. As a result of these considerations, we must estimate our income taxes in each of the jurisdictions in which we operate on a quarterly basis. This process involves estimating our actual current tax exposures, together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in future tax assets and liabilities, which are included in our consolidated balance sheet.

Current tax is the expected taxes payable or receivable on the taxable income or loss for the period, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to taxes payable in respect of previous years.

Deferred tax is recognized in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognized for temporary differences relating to investments in subsidiaries to the extent that it is probable that they will not reverse in the foreseeable future. In addition, deferred tax is not recognized for taxable temporary differences arising on the initial recognition of goodwill.

Deferred tax is measured at tax rates that are expected to be applied to temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date. Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but we intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realized simultaneously.

A deferred tax asset is recognized for unused tax losses, tax credits, difference in tax bases in the purchaser's tax jurisdiction and its cost as reported in the consolidated financial statements as a result of an intra-group transfer of assets and deductible temporary differences, to the extent that it is probable that future taxable profits will be available against which they can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

We are subject to income tax audits by various authorities in respect of prior periods that could result in additional tax expense in future periods. While the outcome of current outstanding actions and claims remains uncertain, it is expected that they will be resolved without a material impact to our financial position. However, there can be no assurances as to the final resolution of these matters and, if the final outcome is adverse to us, the amounts we will be required to pay and the loss of certain future tax deductions could be material to our financial statements.

Accounts Receivable

We evaluate the collectability of our trade receivables based on a combination of factors. We regularly analyze our significant customer accounts and when we become aware of a specific customer's inability to meet its financial obligations to us, such as in the case of bankruptcy filings or deterioration in the customer's operating results or financial position, we record specific bad debt reserves to reduce the related receivable to the amount which we reasonably believe is collectible. We also record reserves for bad debts on a small portion of all other customer balances based on a variety of factors, including the length of time that the receivables are past due, the financial health of the customer, macroeconomic considerations and historical experience. If circumstances related to specific customers change, our estimates of the recoverability of receivables could be further adjusted.

Work In Progress

For revenue arrangements that are accounted for under the percentage of completion method as well as other arrangements and contracts which limit our ability to invoice at certain milestones that do not match the timing of the actual provision of the services, we record such revenue and the related unbilled receivable in work in process. Similar to accounts receivable, we constantly have to evaluate our ability to bill and subsequently collect any amounts contained in the work in progress accounts. We review these balances on a periodic basis to ensure customer balances are prudent based upon a variety of factors, such as the financial health of the customer, macroeconomic considerations and historical experience. If circumstances related to specific customers change, our estimates of the recoverability of work in progress may be further adjusted.

Provisions

A provision is recognized if, as a result of a past event, the Company has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are measured at the estimated future cash flows required to settle the present obligation, based on the most reliable evidence available at the reporting date. The estimated cash flows are discounted at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The amortization of the discount is recognized as part of finance costs.

We are currently involved in various claims and legal proceedings. Quarterly, we review the status of each significant matter and assess our potential financial exposure. Because of the uncertainties related to these matters, provisions are based only on the best information available at the time. As additional information becomes available, we reassess the potential liability related to our pending claims and litigation and, if necessary, revise our provisions. Such revisions in the estimates of the potential liabilities could have a material impact on our results of operations and financial position.

Recent Accounting Pronouncements

A number of new standards, and amendments to standards and interpretations, are not yet effective for the quarter ended December 31, 2017, and have not been applied in preparing our consolidated financial statements. The relevant standards are listed below.

IFRS 9 Financial Instruments

IFRS 9 replaces the guidance in IAS 39 Financial Instruments: Recognition and Measurement, on the classification and measurement of financial assets. IFRS 9 eliminates the existing IAS 39 categories of held to maturity, available-for-sale and loans and receivable.

Financial assets will be classified into one of two categories on initial recognition:

- financial assets measured at amortized cost; or
- financial assets measured at fair value.

Gains and losses on remeasurement of financial assets measured at fair value will be recognized in profit or loss, except for an investment in an equity instrument which is not held-for-trading. IFRS 9 provides, on initial recognition, an irrevocable election to present all fair value changes from the investment in other comprehensive income (OCI). The election is available on an individual investment-by-investment basis. Amounts presented in OCI will not be reclassified to profit or loss at a later date. IFRS 9 also includes a new general hedge accounting standard which will align hedge accounting more closely with risk management.

The standard has a mandatory effective date for annual periods beginning on or after January 1, 2018 with early adoption permitted. The Company is assessing the impact of this standard on its consolidated financial statements.

IFRS 15 Revenue from Contracts with Customers

On May 28, 2014, the IASB issued IFRS 15 Revenue from Contracts with Customers. The new standard is effective for the Company's fiscal year beginning January 1, 2018.

The standard contains a single five-step model that determines whether, how much and when revenue should be recognized for contracts with customers. New estimates and judgments have been introduced, which may affect the amount and/or timing of revenue recognized. In addition, the standard requires increased quantitative and qualitative disclosures of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers.

IFRS 15 permits two methods of adoption: retrospectively to each prior reporting period presented (full retrospective method), or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application and no restatement of comparative periods (cumulative effect method). The Company expects to utilize the cumulative effect method to adopt the new standard. Furthermore, the Company will be required to disclose the quantitative difference between the reported fiscal 2018 results under IFRS 15 and those that would have been reported under current IFRS.

The Company is continuing to assess the impact of this standard on its consolidated financial statements. The Company has a team focused on the adoption and compliance with IFRS 15. This team is responsible for analyzing existing policies, determining differences between existing policies and IFRS 15, ensuring the Company's data collection is appropriate, quantifying the differences and communicating the upcoming changes with various stakeholders. In addition, this team is assisting with the development of policies and processes that will help to ensure an effective transition and the related impacts are reliably assessed. The Company is currently quantifying the transition impact of its planned policies under IFRS 15.

While the Company continues to assess all potential impacts of the new revenue recognition standard, it currently believes the most significant impacts will relate to the accounting for term based software licenses (including subscription arrangements), those license arrangements where the customer is required to renew support

and maintenance in order to maintain ongoing use of the licensed software ("mandatory support and maintenance"), capitalization of direct and incremental contract costs, and expanded disclosure on revenue, performance obligations and contract balances.

Under the Company's current revenue recognition policies, license revenue from term-based licenses is generally deferred and amortized over the period of co-terminus maintenance. Under IFRS 15, the Company has deemed the licenses to be distinct from other performance obligations and expects to recognize the revenue allocated to the license upon contract execution (when the right-to-use the software is granted) and the respective renewal dates. If the cash is collected up-front, we expect to have a reduction to deferred revenue and an increase to revenue as compared to our current policies when the renewal occurs. If cash is collected over the term of the license, we expect to have an increase to our accrued revenue asset and an acceleration of license revenue as compared to our current policies.

In mandatory support and maintenance arrangements, the Company often receives upfront incremental license fees in the first term that results in a material right discount being offered for renewal periods, for which, under IFRS 15, the incremental license fee received in the first term is allocated (amortized) to the discounted future expected optional customer renewal terms over the estimated life of the software. We expect deferred revenue to increase and revenue to decrease at the outset of these arrangements as compared to our current revenue recognition policies.

Under the Company's current accounting policies, the Company generally expenses incremental commission costs paid to employees to obtain customer contracts. Under IFRS 15, the Company will capitalize and amortize incremental commission costs on a systematic basis, consistent with the pattern of transfer of the good(s) or service(s) to which the commission relates. The Company will allocate the incremental commission costs to the various performance obligations based upon their relative expected margins. For those performance obligations that are expected to be renewed at the end of the initial period (such as post-contract customer support), the Company will consider expected renewals over the life of the intellectual property when determining the expected margins from the arrangement.

IFRS 16 Leases

In January 2016, the IASB issued the final publication of the IFRS 16 Leases standard, which will supersede the current IAS 17, Leases standard. Under IFRS 16, a lease will exist when a customer controls the right to use an identified asset as demonstrated by the customer having exclusive use of the asset for a period of time. IFRS 16 introduces a single accounting model for lessees and all leases will require an asset and liability to be recognized on the statement of financial position at inception. The accounting treatment for lessors will remain largely the same as under IAS 17.

The standard is effective for annual periods beginning on or after January 1, 2019 with early adoption permitted, but only if the entity is also applying IFRS 15. The Company is required to retrospectively apply IFRS 16 to all existing leases as of the date of transition and has the option to either:

- apply IFRS 16 with full retrospective effect; or
- recognize the cumulative effect of initially applying IFRS 16 as an adjustment to opening equity at the date of initial application.

As a practical expedient, an entity is not required to reassess whether a contract is, or contains, a lease at the date of initial application. The Company is assessing the impact of this standard on its consolidated financial statements; however, the Company believes that on adoption of the standard there will be an increase to assets and liabilities, as the Company will be required to record a right-of-use asset and a corresponding lease liability on its Consolidated Statements of Financial Position, as well as a decrease to operating costs, an increase to finance costs (due to accretion of the lease liability) and an increase to depreciation (due to depreciation of the right-of-use asset).

Share Capital

As at February 14, 2018, there were 21,191,530 common shares outstanding.

Risks and Uncertainties

The Company's business is subject to a number of risk factors which are described in our most recently filed AIF. Additional risks and uncertainties not presently known to us or that we currently consider immaterial also may impair our business and operations and cause the price of the common shares to decline. If any of the noted risks actually occur, our business may be harmed and the financial condition and results of operation may suffer significantly. In that event, the trading price of the common shares could decline, and shareholders may lose all or part of their investment.

Controls and Procedures

Evaluation of disclosure controls and procedures:

Management is responsible for establishing and maintaining disclosure controls and procedures as defined under National Instrument 52-109. At December 31, 2017, the President and Chief Financial Officer concluded that the design and operation of these disclosure controls and procedures were effective and that material information relating to the Company, including its subsidiaries, was made known to them and was recorded, processed, summarized and reported within the time periods specified under applicable securities legislation.

Internal controls over financial reporting:

The President and Chief Financial Officer have designed or caused to be designed under their supervision, disclosure controls and procedures which provide reasonable assurance that material information regarding the Company is accumulated and communicated to the Company's management, including its President and Chief Financial Officer in a timely manner.

In addition, the President and Chief Financial Officer have designed or caused it to be designed under their supervision internal controls over financial reporting ("ICFR") to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements. The President and Chief Financial Officer have been advised that the control framework the President and the Chief Financial Officer used to design the Company's ICFR is recognized by the Committee of Sponsoring Organizations of the Treadway Commission.

The President and the Chief Financial Officer have evaluated, or caused to be evaluated under their supervision, whether or not there were changes to its ICFR during the period ended December 31, 2017 that have materially affected, or are reasonably likely to materially affect the Company's ICFR. No such changes were identified through their evaluation.

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that its objectives are met. Due to inherent limitations in all such systems, no evaluations of controls can provide absolute assurance that all control issues, if any, within a company have been detected. Accordingly, our disclosure controls and procedures and our internal controls over financial reporting are effective in providing reasonable, not absolute, assurance that the objectives of our control systems have been met.