EXACTEARTH LTD. (the "Company")
MANAGEMENT'S DISCUSSION AND ANALYSIS

*The following management discussion and analysis ("**MD&A**") is prepared as of March 11, 2020 and provides information that management believes is relevant to an assessment and understanding of the Company's operations and financial condition for the three months ended January 31, 2020. This MD&A should be read in conjunction with the Company's unaudited interim condensed consolidated financial statements, including the condensed notes thereto, (the **"Interim Condensed Consolidated Financial Statements**"), and our audited consolidated financial statements, including the notes thereto, for the year ended October 31, 2019 (the "**Consolidated Financial Statements")**. The Interim Condensed Consolidated Financial Statements have been prepared in accordance with International Accounting Standard ("IAS") 34, Interim Financial Reporting Standards and the Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards ("**IFRS**"). All dollar amounts herein, except per share data, are stated in thousands of Canadian dollars ("**CAD**") unless otherwise indicated. Unless otherwise noted, the information contained herein is dated as of January 31, 2020.*

Additional Information and Risk Factors

Additional information relating to the Company, including risk factors that may adversely affect or prevent the Company from carrying out all or portions of its business strategy are discussed in the Company's Annual Information Form ("**AIF"**) dated January 28, 2020 and other filings available on SEDAR at www.sedar.com.

Caution Regarding Forward-Looking Statements

This MD&A contains forward-looking statements that relate to the Company's current expectations and views of future events. In some cases, these forward-looking statements can be identified by words or phrases such as "may", "will", "expect", "anticipate", "aim", "forecast", "estimate", "intend", "plan", "seek", "believe", "potential", "continue", "is/are likely to" or the negative of these terms, or other similar expressions intended to identify forward-looking statements. The Company has based these forward-looking statements on its current expectations and projections about future events and financial trends that the Company believes may affect its financial condition, results of operations, business strategy and financial needs. These forward-looking statements include, among other things, statements relating to: expectations regarding the Company's revenue, expenses, operations and cash flow; anticipated impact of changes to accounting policies; anticipated industry trends; anticipated new Order Bookings (as defined below); research and development spending levels; selling, general and administrative spending; revenue growth guidance; gross margin trending; anticipated and continued benefits of the Second-Generation Constellation on-board Iridium NEXT; potential impact of the amendments to the Original L3Harris Agreement; expected useful lives of satellite assets and ground stations; the Company's intention to respond to certain procurement proposal requests and the outcome thereof.

Forward-looking statements are based on certain assumptions and analysis made by the Company in light of its experience and perception of historical trends, current conditions and expected future developments and other factors the Company believes are appropriate and are subject to risks and uncertainties. Although the Company believes that the assumptions underlying these statements are reasonable, they may prove to be incorrect. Whether actual results, performance or achievements will conform to the Company's expectations and predictions is subject to a number of known and unknown risks, uncertainties, assumptions and other factors, which are discussed in greater detail in the Company's AIF.

Non-IFRS Measures

In this MD&A, the Company provides information about Order Bookings; Adjusted Earnings Before Interest, Taxes, Depreciation and Amortization ("**Adjusted EBITDA**"); and Subscription Revenue (as defined below). Order Bookings, Adjusted EBITDA, and Subscription Revenue are not defined by IFRS and the Company's measurement of them may vary from that used by others. These non-IFRS measures are not recognized measures under IFRS and do not have a standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other companies. Rather, these measures are provided as additional information to complement the IFRS measures by providing further understanding of the Company's results of operations from management's perspective. Accordingly, they should not be considered in isolation or as a substitute for analysis of the Company's financial information reported under IFRS.

The Company defines "Order Bookings" as the dollar sum of contracts for the supply of products and services to its customers. Order Bookings are indicative of firm future revenue streams; however, they do not provide a guarantee of future net income and provide no information about the timing of future revenue.

The Company measures Adjusted EBITDA as net income plus interest, taxes, depreciation and amortization, unrealized foreign exchange losses, share-based compensation costs, and impairment losses, less unrealized foreign exchange gains and other income. The Company believes that Adjusted EBITDA provides useful supplemental information as an indication of the income generated by its main business activities before taking into consideration how they are financed or taxed and excluding the impact of items that are considered by management to be outside of the Company's ongoing operating results. Adjusted EBITDA should not be construed as an alternative to net loss determined in accordance with IFRS as an indicator of the Company's performance or to cash flows from operating, investing and financing activities as a measure of liquidity and cash flows.

The Company defines "Subscription Revenue" as the dollar sum of fully executed contracts for its products and/or services to its customers that are subscription-based, typically sold with a one-year period of service and recognized in the Company's "Subscription Services" segmented revenue.

Overview

The Company is a leading provider of global maritime vessel data for ship tracking and maritime situational awareness solutions. Since its establishment in 2009, the Company has pioneered Satellite Automatic Identification System ("**S-AIS**") maritime surveillance and has delivered to its clients a view of maritime behaviours across all regions of the world's oceans that is unrestricted by terrestrial limitations. The Company has deployed an operational data processing supply chain with its First-Generation Constellation, receiving ground stations, patented decoding algorithms, and advanced Big Data processing and distribution facilities. This ground-breaking system provides a comprehensive picture of the location of Automatic Identification System ("**AIS**") equipped maritime vessels throughout the world and allows the Company to deliver data and information services characterized by high performance, reliability, security, and simplicity to large international markets.

The Interim Condensed Consolidated Financial Statements include the accounts of the Company's Subsidiary, exactEarth Europe Ltd. ("**Subsidiary**") with inter-company transactions and balances eliminated. The Company has two locations, one in Cambridge, Ontario, Canada and the other in Harwell, United Kingdom.

For information regarding the Company's key product offerings and development of the business please see "Key Components and Functions of the Company's Product Offering" in the Management's Discussion and Analysis for the year ended October 31, 2019 (the "**Annual MD&A**"), as filed on the Company's profile on SEDAR at www.SEDAR.com.

Business updates

L3Harris

In January 2020 the Company, announced that it reached agreement on updated terms to the Original L3Harris Agreement, the amended and restated L3Harris Agreement ("**A&R L3Harris Agreement**"). This amended agreement provides the Company with a reduced and simplified cost structure for exactView RT S-AIS data services going forward. The amended agreement also opens up additional growth opportunities for both parties. The Company accounted for the A&R L3Harris Agreement in the first quarter of fiscal 2020 with catch-up adjustments, resulting in a $648 net reduction to cost of revenue related to the period from August 1 to October 31, 2019 in the Consolidated Financial Statements under the original L3Harris Agreement.

Please refer to the Company's AIF for details pertaining to the A&R L3Harris Agreements. The A&R L3Harris Agreement is also filed on the Company's profile at www.SEDAR.com For additional information, refer to note 8 (Commitments and contingencies) in the Notes to the Interim Condensed Consolidated Financial Statements.

Other strategic relationships for the Company are described in the Company's Annual MD&A under the heading "Strategic alliances and relationships".

Funding sources

On December 13, 2018, the Company completed an offering of 13,000 convertible debentures at a price of $1 per convertible debenture for gross proceeds of $13,000. The net proceeds of $11,854 from the convertible debenture financing will be used to fund the Company's ongoing working capital needs in support of business operations and for general corporate purposes. The convertible debenture financing represented the culmination of an extensive review of strategic alternatives by a Special Committee of the Board, which will provide the Company with a solid financial footing going forward. Each convertible debenture is convertible into 2,000 common shares of the Company, being an effective conversion price of 50 cents per share at the option of the holder (subject to customary adjustments from time to time), at any time prior to the fifth anniversary of the closing date. For additional information, refer to note 6 (Financial instruments and foreign exchange) in the Notes to the Interim Condensed Consolidated Financial Statements.

In October 2018 the Company signed a loan agreement with the Strategic Innovation Fund ("**SIF**"). Under this agreement, the Company is eligible to receive funding for certain expenditures incurred from February 13, 2018 to February 12, 2021 to a maximum of $7,206. The loan is repayable in 15 annual payments beginning February 28, 2024. The repayment values are dependent upon a calculated Performance Factor, which is used to calculate a Repayment Rate. The Repayment Rate is applied to annual Gross Business Revenue for the payment in February of the subsequent year. The Company received $833 in the three months ended January 31, 2020 (January 31, 2019 – nil). The Company has a receivable of $438 for claimed and unclaimed funding related to expenses incurred and paid prior to January 31, 2020 in the Interim Condensed Consolidated Statements of Financial Position (October 31, 2019 – $881). The SIF loan is measured at fair value using an interest rate of 14% based on the market interest rate for a comparable instrument with a similar term, resulting in a loan balance of $1,010 at January 31, 2020 (October 31, 2019 – $878). The difference between the fair value at inception and the loan proceeds received is recorded as a government grant, which is recognized as an operating grant or a capital grant based on the relative proportion of eligible expenditures incurred. The Company recognized an operating grant of $209 and a capital grant of $72 during the three months ended January 31, 2020 (January 31, 2019 – operating grant of $692 and capital grant of nil). For additional information, refer to note 4 (Government assistance) and note 6 (Financial instruments and foreign exchange) in the Notes to the Interim Condensed Consolidated Financial Statements.

Staffing

The Company relies on the knowledge and talent of its employees and makes use of their expertise in satellite operations, Big Data architecture, web services, software and product development, and consulting services.

The number of full-time employees at January 31, 2020 was 37 (January 31, 2019 – 37).

Overall Performance

Revenue was $4,133 for the three months ended January 31, 2020, compared to $3,522 for the three months ended January 31, 2019. The Company's major application market segments are government and commercial. Government customers contributed $805 to the revenue for the three months ended January 31, 2020, compared to $1,067 for the three months ended January 31, 2019. Commercial revenue for the three months ended January 31, 2020 was $3,328 compared to $2,455 for the three months ended January 31, 2019.

Revenue related to Subscription Service orders will typically be realized over a twelve-month period, while revenue related to product orders is realized upon delivery. The backlog of Order Bookings won but not yet recognized in revenue at January 31, 2020 is $25,648, compared to $30,710 of Order Bookings backlog reported at January 31, 2019. Revenue of $10,841 from the current Order Bookings backlog is forecasted to be earned in the remainder of 2020. The balance of $14,807 is expected to be earned between 2021 and 2027.

The Company's foreign currency denominated Order Bookings backlog is affected by fluctuation in foreign exchange rates. The Company's closing Order Bookings backlog for any given quarter gets revalued as the CAD strengthens or weakens in relation to the Great Britain Pound ("**GBP**"), Euro ("**EUR**") or US dollar ("**USD**"), as applicable. The foreign exchange rates at January 31, 2020 were: GBP $1.7343, EUR $1.4598, USD $1.3234, while the foreign exchange rates at January 31, 2019 were: GBP $1.7244, EUR $1.5066, USD $1.3144. The fluctuation in exchange rates in the three months ended January 31, 2020 resulted in an increase of $341 in backlog (January 31, 2019 – decrease of $278).

The following chart summarizes Order Bookings:

	Three months ended January 31	
	2020	2019
Opening Order Bookings backlog	$ 22,354	$ 31,482
New Order Bookings	7,086	3,028
Foreign exchange adjustment on opening Order Bookings backlog	341	(278)
Revenue	(4,133)	(3,522)
Closing Order Bookings backlog	$ 25,648	$ 30,710

Volatility in exchange rates between Canadian and foreign currencies such as GBP, EUR and USD impact the business as a portion of the Company's revenues are billed in non-Canadian currencies (predominately in USD) and recognized in the Company's Interim Condensed Consolidated Statements of Financial Position in the form of cash, receivables, and payables. The average GBP/CAD exchange rate during the three months ended January 31, 2020 was $1.7154, compared to an average of $1.7068 in 2019. The average EUR/CAD exchange rate during the three months ended January 31, 2020 was $1.5186, compared to an average of $1.5161 in 2019. The average USD/CAD exchange rate during the three months ended January 31, 2020 was $1.3301, compared to an average of $1.3311 in 2019. Foreign exchange gain for the three months ended January 31, 2020 was $117 compared to a gain of $101 for the three months ended January 31, 2019.

Adjusted EBITDA for the three months ended January 31, 2020 was a gain of $250 compared to a loss of $855 for the three months ended January 31, 2019. Please refer to the Adjusted EBITDA reconciliation included later in this MD&A.

For an analysis of the risks the Company faces, please refer to the "Risk Factors" section in the Company's AIF.

Results of Operations

Revenue

The Company sells products in three broad categories: Subscription Services, Data Products, and Other Products and Services. Generally, Subscription Services are sold with a twelve-month period of service with revenue recognized equally over the contract term. Data Products and Other Products and Services are generally sold on an as-demanded basis and the revenue is recognized when the product is delivered to the customer, or for long-term projects, on a percentage of completion basis. Revenue for the Data Products and for the Other Products and Services tends to be less predictable and is subject to fluctuations from one period to the next.

Revenues for the three months ended January 31, 2020:

	Subscription Services	Data Products	Other Products & Services	Total Revenue
Government departments	$ 711	$ 28	$ 66	$ 805
Commercial and other	3,128	122	78	3,328
Total revenue	$ 3,839	$ 150	$ 144	$ 4,133

Revenues for the three months ended January 31, 2019:

	Subscription Services	Data Products	Other Products & Services	Total Revenue
Government departments	$ 759	$ 4	$ 304	$ 1,067
Commercial and other	2,359	95	1	2,455
Total revenue	$ 3,118	$ 99	$ 305	$ 3,522

The Company's total revenue for the three months ended January 31, 2020 was $4,133 compared to $3,522 for the three months ended January 31, 2019. Now that the commissioning of all exactView RT satellites on-board Iridium

NEXT is complete, new customers, new analytics applications for the S-AIS and maritime information services markets and sales traction within the small vessel tracking market will drive the next phase of revenue growth.

The Company's Subscription Services revenue is generally earned on a monthly recurring basis under annual or multi-year contracts and therefore provides a solid foundation for revenue growth. Subscription Services revenue for the three months ended January 31, 2020, was $3,839 compared to $3,118 for the three months ended January 31, 2019. Subscription Services revenue represented 93% of the Company's total revenue for the three months ended January 31, 2020 compared to 88% for the three months ended January 31, 2019. The $721 increase in Subscription Services revenue was primarily due to the addition of new subscription customers.

Revenue from Data Products was $150 for the three months ended January 31, 2020, compared to $99 for the three months ended January 31, 2019. This type of revenue is generated from on-demand customer requests and is therefore variable in its timing.

Revenue from Other Products & Services was $144 for the three months ended January 31, 2020 compared to $305 for the three months ended January 31, 2019. The type of revenue is generated from delivery of services related to ongoing percentage of completion projects and the sale of products related to small vessel opportunities and is therefore variable in its timing.

Revenue by quarter

	Subscription Services	Data Products	Other Products & Services	Total Revenue
Q2 2018	$ 2,563	$ 585	$ 31	$ 3,179
Q3 2018	$ 3,001	$ 56	$ 114	$ 3,171
Q4 2018	$ 3,273	$ 268	$ 228	$ 3,769
Q1 2019	$ 3,118	$ 99	$ 305	$ 3,522
Q2 2019	$ 3,181	$ 339	$ 386	$ 3,906
Q3 2019	$ 3,466	$ 449	$ 96	$ 4,011
Q4 2019	$ 3,457	$ 239	$ 62	$ 3,758
Q1 2020	$ 3,839	$ 150	$ 144	$ 4,133

The quarter-over-quarter variance in revenue is caused by the mix in the type of revenue earned in each quarter. Subscription Services revenue tends to be steady due to the generally recurring nature of those client agreements. Data Products revenue is on-demand and therefore less predictable. Other Products & Services revenue is predominantly project-based revenue and the timing of revenue recognition varies depending on the progress of the projects. For some of the Company's projects, revenue recognition is based on percentage completion calculated using costs to date as a percentage of estimated total cost. Small vessel contract revenue recognition is based on progress with the installation of Class B transponders. Therefore, revenue will vary quarter to quarter based on the progress made on the various projects.

The operating results for interim periods should not be relied upon as an indication of results to be expected or achieved in any future period or any fiscal year as a whole. The Company has experienced lower than planned revenue combined with operating losses resulting in a reduction of ongoing operating cash flows. However, in recent quarters, the trend for Subscription Services revenue has been positive as sales momentum has been generated with exactView RT, the Company's real-time S-AIS service. Factors affecting the Company's revenue and results are described in greater detail under the heading "Risks Relating to Our Business and Industry" in the Company's AIF.

Gross margin

	Three months ended January 31	
	2020	2019
Gross profit	$ 2,074	$ 1,378
Gross margin	50.2%	39.1%

Gross margin for the three months ended January 31, 2020 was 50.2% compared to 39.1% for the three months ended January 31, 2019. Gross margin increased in the three months ended January 31, 2020 due to increased revenue and decreased cost of revenue. Cost of revenue decreased in the three months ended January 31, 2020 due to lower satellite operating costs related to the Second-Generation Constellation, $648 of net adjustments related to the A&R L3Harris Agreement and $209 of SIF operating grant recognized against cost of revenue (January 31, 2019 – $692), partially offset by increased data processing costs. Costs increase relative to the number of satellites and ground stations, and volume of data processing, rather than relative to the number of customers. With the Second-Generation constellation now completed and with L3Harris having declared IOC, the Company's cost of revenue has experienced a significant increase in recent quarters. However, with the quarterly reduction in cost of revenue as a result of the A&R L3Harris Agreement of approximately $800, and as the Company works to leverage its service advantage with exactView RT and its customer base subsequently grows, the Company expects a higher gross margin over the long term.

SG&A expenses

SG&A expenses for the three months ended January 31, 2020 were $1,780 compared to $1,996 for the three months ended January 31, 2019. The $216 decrease in the three months ended January 31, 2020 was primarily due to a decrease in bad debt expense and legal fees, partially offset by an increase in long-term incentive plan expense.

Product development and R&D expenses

Product development and R&D expenses for the three months ended January 31, 2020 were $304 compared to $293 for the three months ended January 31, 2019. The Company continues to focus on developing more web-based functionality as well as new analytics-based product offerings.

Other and income tax expenses

	Three months ended January 31		
	2020	2019	Change
Foreign exchange gain	$ (117)	(101)	(16)
Interest income	(34)	(26)	(8)
Interest expense	426	223	203
Income tax expense	74	60	14
Total other and income tax expenses	$ 349	$ 156	$ 193

Foreign exchange gain

Foreign exchange amounts in the Interim Condensed Consolidated Statements of Comprehensive Loss include realized and unrealized gains and losses that result from translation of foreign denominated balances in the Company's Interim Condensed Consolidated Statements of Financial Position. The impact of translation of outstanding foreign denominated balances in the Interim Condensed Consolidated Statements of Financial Position and of settling foreign denominated balances into cash during the three months ended January 31, 2020 was a gain of $117 compared to a gain of $101 during the three months ended January 31, 2019.

Interest income

The Company's interest income for the three months ended January 31, 2020 was $34 compared to $26 for the three months ended January 31, 2019. Interest income increased due to imputed interest on revenue financing.

Interest expense

The Company's interest expense for the three months ended January 31, 2020 was $426 compared to $223 for the three months ended January 31, 2019. Interest expense is increased due to the increase in SIF funding and the convertible debenture financing, the majority of which is long term. For additional information, refer to note 4

(Government assistance) and note 6 (Financial instruments and foreign exchange) in the Notes to the Interim Condensed Consolidated Financial Statements.

Income tax expense

The Company's income tax expense for the three months ended January 31, 2020 was $74 compared to $60 for the three months ended January 31, 2019. Income tax expense relates to withholding tax that is not expected to be recoverable.

Adjusted EBITDA

	Three months ended January 31	
	2020	2019
Net loss	$ (613)	$ (1,235)
Interest income	(34)	(26)
Interest expense	426	223
Income tax expense	74	60
Depreciation and amortization	254	168
Unrealized foreign exchange gain	(167)	(111)
Share-based compensation	310	66
Adjusted EBITDA	$ 250	$ (855)

Adjusted EBITDA for the three months ended January 31, 2020, was a gain of $250 compared to a loss of $855 for the three months ended January 31, 2019. The increase in Adjusted EBITDA for the three months ended January 31, 2020 was driven primarily by higher revenue and lower cost of revenue and SG&A expenses, partially offset by higher product development and R&D expense. Management believes that Adjusted EBITDA provides a relevant measure of the results of the Company's main business activities before taking into consideration how they are financed or taxed and excluding the impact of certain non-cash expenses and items that are considered to be outside of the Company's ongoing operating results.

Net loss

Net loss was $613 or $0.03 per basic and diluted share, for the three months ended January 31, 2020, compared to net loss of $1,235 or $0.06 per basic and diluted share, for the three months ended January 31, 2019. The net loss decreased primarily due to higher revenue and decreases in product development and R&D expense, depreciation and amortization and impairment losses, partially offset by increases in cost of revenue, SG&A and interest expense.

Net loss by quarter

	Net loss	Loss per share
Q2 2018	$ (2,049)	$ (0.09)
Q3 2018	$ (2,253)	$ (0.10)
Q4 2018	$ (10,322)	$ (0.48)
Q1 2019	$ (1,235)	$ (0.06)
Q2 2019	$ (2,155)	$ (0.10)
Q3 2019	$ (2,877)	$ (0.13)
Q4 2019	$ (2,216)	$ (0.10)
Q1 2020	$ (613)	$ (0.03)

Financial position

The following chart outlines the changes in the Interim Condensed Consolidated Statements of Financial Position between October 31, 2019 and January 31, 2020:

	Increase / (Decrease)	Explanation
Cash	$ (1,516)	The decrease in cash is due to ongoing operational and financing expenses, partially offset by collections and net proceeds from the SIF funding.
Accounts receivable	$ (269)	The accounts receivable balance fluctuates with changes in billings and collections.
Unbilled revenue	$ 796	The unbilled revenue reflects the amount of revenue recognized in advance of billings.
Prepaid expenses	$ 11	The increase primarily relates to annual renewals of support contracts, partially offset by expenses recognized.
Other assets (current and non-current)	$ 68	The increase relates to capitalized sales commission under IFRS 15, partially offset by commission expensed in the period and the decrease in capitalized transponder costs upon installation.
Property, plant and equipment	$ 174	The increase in property, plant and equipment is due to additions of $660, including capitalization of a right-of-use asset, offset by SIF funding of $72, reimbursement from LuxSpace for services related to EV-10 of $206 and depreciation of $208.
Intangible assets	$ (46)	The decrease in intangible assets is due to amortization of $46.
Accounts payable and accrued liabilities (current and non-current)	$ (1,108)	The balance fluctuates based on timing of goods and services received and payments, and includes, convertible debenture interest payable, lease payable and contract liabilities.
Deferred revenue	$ 576	Deferred revenue reflects billings that occur in advance of revenue recognition.
Loans payable (current and non-current)	$ 115	The increase is due to accretion of the convertible debenture financing and additions to the SIF loan, partially offset by principal payments made on the FED DEV loan.
Long-term incentive plan liability (current and non-current)	$ 178	The increase is due to the continuing accrual of deferred share units payable and revaluation of previously accrued units due to an increase in stock price.
Contributed surplus	$ 132	The increase is related the expense recognized on RSUs and stock options during the three months ended January 31, 2020. Stock options and RSUs will be equity settled.
Accumulated other comprehensive loss	$ (62)	The decrease is due to the foreign exchange translation of the Company's subsidiary.
Deficit	$ (613)	The decrease represents net loss of $613.

Liquidity and capital resources

The key liquidity and capital resource items are as follows:

	January 31, 2020	October 31, 2019	% Change
Cash	$ 8,672	$ 10,188	(15%)
Short-term investments	$ 49	$ 49	-
Accounts receivable	$ 2,804	$ 3,073	(9%)
Prepaid expenses	$ 459	$ 448	2%
Other assets – current	$ 198	209	(5%)
Accounts payable and accrued liabilities	$ 4,009	$ 4,840	(17%)
Loans payable – current	$ 82	$ 202	(59%)

Working capital

Working capital decreased $614 during the three months ended January 31, 2020 to $7,050. The decrease since October 31, 2019 is driven by the following:

	Increase / (Decrease) to working capital
Decrease in cash	$ (1,516)
Decrease in accounts receivable	(269)
Increase in unbilled revenue	796
Increase in prepaid expenses	11
Decrease in other assets	(11)
Decrease in accounts payable and accrued liabilities	831
Increase in deferred revenue	(576)
All other	120
Total	$ 614

Current assets are available at varying times within twelve months following the balance sheet date. Cash is readily available to settle obligations related to current and future expenditures.

Significant cash flows:

	Three months ended January 31	
	2020	2019
Cash used in operating activities	$ (1,815)	$ (2,190)
Cash (used in) from investing activities	(378)	121
Cash from financing activities	673	11,731
Effect of exchange rate changes on cash	4	33
Net (decrease) increase in cash	$ (1,516)	$ 9,695
Cash, beginning of the year	10,188	4,774
Cash, end of the year	$ 8,672	$ 14,469

The Company manages its liquidity and capital resources to provide sufficient cash to meet short and long-term operating and development plans, debt obligations, and other contractual obligations when due. In October 2018, the company signed a loan agreement with SIF to receive funding for certain expenditures incurred from February 2018 to February 2021 to a maximum of $7,206. In December 2018 the Company completed an offering of Convertible Debentures at a price of $1 per Convertible Debenture for gross proceeds of $13,000, and net proceeds after financing costs of $11,854 to fund short-term operating costs. As a result of this funding management believes capital resources as of the date of this MD&A are sufficient to fund current operations, forecasted capital expenditures, and contractual obligations in 2020. For additional information, refer to note 4 (Government assistance) and note 6 (Financial instruments and foreign exchange) in the Notes to the Interim Condensed Consolidated Financial Statements.

With respect to longer-term funding requirements, the Company believes future cash flows generated from operations and other sources of liquidity will be available. Under present conditions, the Company believes it has sufficient access to capital and debt markets. There is a risk that the cost of obtaining capital resources from capital and debt markets may increase in the future as lenders and institutional investors may increase interest rates, impose tighter lending standards, or refuse to provide any new funding. Despite present market conditions, changes in the Company's business, unforeseen opportunities or events, and other external factors may also adversely affect liquidity and the availability of additional capital resources. Due to these factors, the Company cannot be certain that funding, if needed, will be available to the extent required, or on acceptable terms. If the Company is unable to access funding when needed on acceptable terms, the Company may not be able to fully implement current business plans, take advantage of business opportunities, or respond to competitive pressures, any of which could have a material adverse effect on the Company's operational and financial results. No assurance can be given that the Company will be successful in meeting sales targets, reducing costs or obtaining additional financing either through debt or equity. The Company has experienced losses and negative cash flows from operations. However, the Company may elect to reduce its planned expenditures concurrent with prevailing conditions. The Company believes that this financial flexibility to adjust its spending levels will provide it with sufficient liquidity to meet its future operational goals and financial obligations. For additional information, refer to note 2 b) (Significant Accounting Policies, Basis of presentation) in the Notes to the Interim Condensed Consolidated Financial Statements.

Operating activities

Cash flows used in operations for the three months ended January 31, 2020 were $1,815, compared to cash flows used in operations of $2,190 for the three months ended January 31, 2019. The change in cash flows used in operations was primarily due to working capital changes and payment of outstanding invoices related to the A&R L3Harris agreement.

Investing activities

Cash flows used in investing activities for the three months ended January 31, 2020 were $378 compared to cash flows from investing activities of $121 for the three months ended January 31, 2019. Investing activity cash flows for the three months ended January 31, 2020 include the acquisition of long-lived assets. In the three months ended January 31, 2019, the cash flows used in the acquisition of long-lived assets were offset by reimbursement from LuxSpace related to EV-10.

Financing activities

Cash flows from financing activities in the three months ended January 31, 2020 were $673, compared to $11,731 from financing in the three months ended January 31, 2019. Financing activity cash flows in the three months ended January 31, 2020 were related to the SIF loan advance, offset by repayment of the government loan and lease obligations. Financing activity cash flows in the three months ended January 31, 2019 were related to the convertible debenture loan advance, offset by issue costs and repayment of the government loan.

Contractual obligations

The following table outlines the contractual cash obligations (excluding accounts payable and accrued liabilities) as at January 31, 2020:

	Total	Less than one year	2-3 years	4-5 years	>5 years
Loans and interest payable	$ 22,071	$ 472	$ 1,040	$ 16,872	$ 3,687
Lease obligations	334	160	174	-	-
Capital commitments	4,188	1,242	1,656	1,290	-
L3Harris commitment	65,654	5,691	11,381	11,381	37,201
Hisdesat commitment	2,120	240	480	480	920
Total contractual obligations	$ 94,367	$ 7,805	$ 14,731	$ 30,023	$ 41,808

As at January 31, 2020, the Company had various contractual cash obligations, including loans payable, capital commitments and commitments and obligations under the L3Harris Agreement. For additional information, refer to note 4 (Government assistance) and note 8 (Commitments and contingencies) in the Notes to the Interim Condensed Consolidated Financial Statements.

Credit facilities

The company holds two Guaranteed Investment Certificates totalling $49 from CIBC as collateral for a line of credit for $29 and other credit facilities of $20.

Off-balance sheet arrangements

As at January 31, 2020, the Company does not have any off-balance sheet arrangements, other than operating leases as disclosed in note 8 (Commitments and contingencies) in the Notes to the Interim Condensed Consolidated Financial Statements.

Proposed transactions

The Company did not have any proposed transactions as at January 31, 2020.

Summary of Significant Accounting Policies

Critical accounting estimates

The preparation of the Company's Interim Condensed Consolidated Financial Statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities. These estimates are based upon management's historical experience and various other assumptions that are believed by management to be reasonable under the circumstances. Such assumptions and estimates are evaluated on an ongoing basis and form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources as well as the periodic recognition of revenue and cost of revenue. Actual results could differ from these estimates.

The Company believes the following critical accounting policies affect the more significant estimates and assumptions used in the preparation of its Interim Condensed Consolidated Financial Statements.

Revenue recognition

Revenue is recognized through the application of the following steps: (i) identification of the contract, or contracts, with a customer; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price; (iv) allocation of the transaction price to the performance obligations in the contract; and (v) recognition of revenue when, or as the Company satisfies a performance obligation. The Company assesses its revenue contracts against specific criteria in order to determine if it is acting as principal or agent.

Revenue is adjusted for the effects of a significant financing component when the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. Judgement is required to determine whether a contract contains a significant financing component and the discount rate to be applied when adjusting the promised consideration for the significant financing component.

Consideration in contracts with multiple performance obligations is allocated to the separate performance obligations based on estimated stand-alone selling price ("**SSP**"). Judgment is required to determine the SSP for each distinct performance obligation. The Company's products and services often have observable SSP when the Company sells a promised product or service separately to similar customers. A contractually stated price or list price for a good or service may be the SSP of that good or service. However, in instances where SSP is not directly observable, the Company determines the SSP by maximizing observable inputs and using an approach using information that may include market conditions and other inputs from the Company's pricing team, including historical SSP.

Changes in estimates are reflected in the period in which the circumstances that give rise to the change become known and affect the Company's revenue, unbilled receivables, contract assets, and deferred revenue.

Revenue on fixed price contracts with performance obligations satisfied over time is recognized on a percentage of completion basis. In applying the accounting policy to fixed price contracts, judgment is required in determining the estimated costs to complete a contract. These cost estimates are reviewed as at each reporting period and by their nature may give rise to income volatility. To estimate income (loss) on completion, the Company takes into account factors inherent to the contract by using historical and/or forecast data. When total contract costs are likely to exceed total contract revenue, the expected loss is recognized immediately and recorded in accounts payable and accrued liabilities in the Interim Condensed Consolidated Statements of Financial Position. The accrual is drawn down over the completion of the contract using the percentage of completion method.

Allowance for doubtful accounts

The Company establishes an allowance for doubtful accounts using the simplified ECL model. The Company ECL model uses a provision matrix to apply historical loss rates to outstanding receivable balances. Judgement is required in determining the grouping of receivables based on shared credit risk characteristics as well as determining historical loss rates which are reflective of future economic conditions.

Useful life of intangible and long-term assets

The Company has established policies for determining the useful life of its intangible and long-term assets and amortizes the costs of these assets over those useful lives. The useful life for each category of asset is determined based on the expectation of its ability to continue to generate revenues, and thus, cash flows. This ability is tested periodically to ensure the conditions still exist to allow the asset to be reflected at its net-recorded value in the Company's accounts, and any impairment to the valuation is reflected in such accounts at the time the impairment is determined.

Recoverable amount for long-lived assets

An asset's recoverable amount is the higher of an asset's or CGU's fair value less costs to sell and its value in use and is determined for an individual asset or at the CGU level if individual assets do not have largely independent cash inflows. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU. In determining fair value less costs to sell, recent market transactions are taken into account, if available. If no such transactions can be identified, an appropriate valuation model is used. Given the Company is a single CGU, the market capitalization of the Company is a relevant measure of FVLCS.

Financial instruments

Financial assets and liabilities are recognized when the Company becomes a party to the contractual provisions of the instrument. Financial assets are derecognized when the rights to receive the cash flows from the assets have expired or have been transferred and the Company has transferred substantially all risks and rewards of ownership. Financial assets and liabilities are offset, and the net amount is reported in the Interim Condensed Consolidated

Statements of Financial Position when there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the asset and settle the liability simultaneously.

At each reporting date, the Company assesses whether there is objective evidence that a financial asset is impaired. Objective evidence that financial assets are impaired can include default or delinquency by a debtor, restructuring or an amount due to the Company on terms that the Company would not otherwise consider, or indications that a debtor or issuer will enter bankruptcy. The Company applies the IFRS 9 simplified approach to measuring expected credit losses, which uses a lifetime expected loss allowance for all trade receivables and contract assets. To measure the expected credit losses, trade receivables, unbilled receivables, and other assets, have been grouped based on shared credit risk characteristics and the days past due.

Convertible debentures

IAS 32, *Financial instruments: presentation*, requires the issuer of a non-derivative financial instrument to evaluate the terms of the financial instrument to determine whether it contains both a liability and an equity component. This evaluation is based on the contractual terms of the financial instrument, the substance of the arrangement and the definition of a financial liability, financial asset and an equity instrument. If such components are identified, they must be accounted for separately as financial liabilities, financial assets or equity.

The liability component of the Company's convertible debentures is measured at the fair value of a similar liability that does not have an associated equity conversion feature. The equity component is allocated the residual difference between the difference between the fair value of the compound instrument (total issue proceeds) and the liability component. The equity component is credited directly to equity and is not subsequently remeasured nor reclassified to profit or loss.

Transaction costs that relate to the issue of a compound financial instrument are allocated to the liability and equity components of the instrument in proportion to the allocation of proceeds. Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial asset or liability and includes fees and commissions paid to agents (including employees acting as selling agents), advisers, brokers, and dealers.

The initial carrying amount of the Company's convertible debenture is adjusted for transaction costs. Transaction costs related to the liability component are included in the calculation of the amortized cost using the effective interest method and included in interest expense recognized over the life of the instrument. Transaction costs allocated to the equity component are offset against the amount recognized in equity.

Changes in Accounting Policies Including Initial Adoption

The Company has adopted the new and amended IFRS as listed below as at November 1, 2019, in accordance with the transitional provisions outlined in the respective standards. There were no other changes to accounting policies during the three months ended January 31, 2020 compared to the accounting policies applied in the audited Consolidated Financial Statements for the year ended October 31, 2019.

Changes to accounting policies

IFRS 16, Leases ("**IFRS 16**")

The Company adopted IFRS 16 using the modified retrospective approach and the information presented for the 2019 reporting period has not been restated.

IFRS 16 removes the distinction between operating and finance leases and requires the recognition of a ROU asset and a lease liability at the lease commencement for all leases, except for short-term leases (lease term of twelve months or less) and low value leases.

A lease that was classified as operating under IAS 17 was measured at the present value of remaining lease payments discounted at the Company's incremental borrowing rate of 5% as at November 1, 2019. The ROU asset and lease liabilities relate to a lease of real estate property. In applying IFRS 16, the Company recognized the following:

- a ROU asset and lease liability in the Interim Condensed Consolidated Statement of Financial Position, measured at the present value of future lease payments;

- the ROU asset is reported in Property, plant and equipment
- the current portion of the lease liability is reported in Accounts payable and accrued liabilities and the non-current portion is reported in Other long-term liabilities
- depreciation of a ROU asset on a straight-line basis and interest on the lease liability in the Interim Condensed Consolidated Statements of Loss and Comprehensive Loss; and
- the principal portion (presented in financing activities) and interest portion (presented within operating activities) of lease payments in the Interim Condensed Consolidated Statements of Cash Flows.

The Company used the following practical expedients permitted by the standard:

- Applied the standard only to contracts that were previously identified as leases under IAS 17 at the date of initial application; and
- Applied the recognition exemptions for low-value leases and leases that end within twelve months at the date of application.

IFRIC 23, Uncertainty over Income Tax Treatments

Uncertainty over Income Tax Treatments provides guidance when there is uncertainty over income tax treatments including (but not limited to) whether uncertain tax treatments should be considered separately; assumptions made about the examination of tax treatments by tax authorities; the determination of taxable profit, tax bases, unused tax losses, unused tax credits, and tax rates; and the impact of changes in facts and circumstances. The new interpretation is effective for annual periods beginning on or after January 1, 2019. There were no adjustments related to the adoption of IFRIC 23 in the January 31, 2020 unaudited Interim Condensed Consolidated Financial Statements.

For additional information, refer to note 3 (Changes to accounting policies) in the Notes to the Interim Condensed Consolidated Financial Statements.

CONTROLS AND PROCEDURES

Disclosure controls and procedures

The Company's disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by the Company in reports filed under Canadian securities laws is recorded, processed, summarized and reported within the time periods specified under those laws, and include controls and procedures that are designed to ensure that information is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Management's report on internal control over financial reporting

Internal control over financial reporting is designed to provide reasonable, but not absolute, assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with IFRS. Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis. The Company used the Committee of Sponsoring Organizations of the Treadway Commission (COSO) 2013 framework to evaluate the effectiveness of internal control over financial reporting.

Changes in internal controls over financial reporting

The Company made no changes to internal controls over financial reporting during the quarter ended January 31, 2020, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

OUTSTANDING SHARE DATA

The number of issued and outstanding common shares was 21,746,264 as of the date of this MD&A.