Management's Discussion and Analysis

For the three months ended March 31, 2019

May 09, 2019

carmanah®

ABOUT THIS MD&A

This Management Discussion and Analysis ("MD&A") discusses the consolidated financial condition and operating performance for Carmanah Technologies Corporation and should be read together with our audited consolidated financial statements for the year ended December 31, 2018. References to the "Company", "Carmanah", "we", "us" or "our" are to be taken as references to Carmanah Technologies Corporation. These documents, along with additional information about our Company, including this annual MD&A Report and Annual Information Form are available at www.carmanah.com and www.sedar.com. This document contains forward-looking information qualified by the forward-looking statements in the next section.

Unless otherwise indicated, all financial information presented in this MD&A is in our functional and presentation currency, United States of America ("US") dollars, and has been prepared in accordance with International Financial Reporting Standards ("IFRS"). Section 7 outlines any relevant recent or pending accounting policy developments that may impact our financials.

Our consolidated financial statements include our accounts and those of our wholly-owned subsidiaries, Carmanah Solar Power Corp. ("CSPC"), Carmanah Technologies (US) Corporation, Sol, Inc. ("Sol"), Sabik Oy, Sabik Offshore GmbH, Sabik Pte Ltd., Sabik Limited, Sabik Offshore Limited, Sabik Oü (collectively, the "Sabik Group"), Information Display Company ("IDC"), Vega Navigations Americas Inc and Vega Industries Limited ("Vega").

Our disclosure controls and procedures ("DC&P") are designed to provide reasonable assurance that all relevant information is gathered and reported to our senior management on a timely basis so that appropriate decisions can be made regarding public disclosure. Our management determines if information is material based on whether they believe a reasonable investor's decision to buy, sell or hold securities in our Company would likely be influenced or changed if the information were omitted or misstated. The MD&A and the consolidated financial statements were reviewed by our Audit Committee and approved by our board of directors (the "Board"). This MD&A is prepared as of May 09, 2019.

Our management reports on certain non-IFRS measures which are used to evaluate financial performance. As non-IFRS measures generally do not have a standardized meaning and therefore may not be comparable to similar measures presented by other issuers, securities regulations require non-IFRS measures to be clearly defined, qualified and reconciled with their nearest IFRS measure. See Section 3 for the definition, calculation and reconciliation of these figures.

On December 12, 2018, we announced our intention to divest all the issued and outstanding equity interests of each of Sabik Oy, Sabik Ou, Sabik PTE Ltd., and Sabik Ltd. and their respective assets (our "Marine business"); the business and assets of our Airfield Ground lighting business, our Aviation Obstruction business as well as some miscellaneous business assets that support the businesses sold to SPX Corporation ("SPX") for $77.6 million, including working capital (the "SPX Divestiture"). For the purposes of discussing our operating results in this MD&A, we have presented our financial information based on our continuing operations unless otherwise noted. When operations are classified as discontinued, the Consolidated Statement of Cash Flows and Consolidated Statements of Income and Total Comprehensive Income is represented as if the operation has been discontinued from the start of the comparative year. The comparative Consolidated Statement of Financial Position is not restated.

Due to this reclassification of results to discontinued operations as described above and in Section 4, the Company determined that its Offshore Wind vertical now meets the definition of a reportable segment in accordance with IFRS 8 - *Operating Segments*. A new reportable segment was therefore recognized within continued operations as presented at December 31, 2018.

The discontinued operations above do not impact our continuing operations and their impact on continuing operations has not been discussed in this MD&A. Comparative segment reporting in this MD&A has been adjusted to reflect the new reportable segment.

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CAUTION REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this MD&A are forward-looking statements that involve risks and uncertainties. Forward-looking statements are often, but not always, identified by words such as "may", "would", "could", "will", "intend", "should", "expect", "plan", "anticipate", "believe", "estimate", "predict", "potential", "continue" and similar expressions. Forward-looking statements in this MD&A include, but are not limited to:

- statements relating to the expected growth opportunities and commercial acceptance and demand for our products;
- the successful development of new and innovative products to help penetrate new geographic markets;
- the future success of any potential reorganization or restructuring of our businesses and our ability to achieve profitability in the future;
- the outcome of claims and lawsuits;
- our intention to be a leader or top contender in each of our market segments;
- our belief that the signals industry is ready for consolidation;
- our plan to explore synergy opportunities that may exist in overlapping product lines, commercial efficiencies, research and development ("R&D") projects and potential manufacturing competencies;
- the successful implementation of machine to machine satellite solutions for Globalstar;
- our plan to equip all strategic products with remote monitoring infrastructure;
- our belief that "connected" devices are likely to be data gateways that provide a variety of sensor data that will increase safety and further reduce operating costs;
- our expectation that the current installed base of signaling products will become obsolete and result in increases in growth rates for the signals industry;
- our expected use of proceeds from the SPX Divestiture;
- our expectation that Offshore segment revenues will be shifted to future periods due to project delays;
- the amount and sufficiency of R&D spending;
- our expectation of growth in solar light emitting diode ("LED") illumination;
- the expected results of the acquisition of Information Display Company ("IDC").

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and many factors could cause actual results or events to differ materially from those anticipated in such forward-looking statements. Although the forward-looking statements contained in this MD&A are based upon what we believe to be reasonable assumptions, prospective investors cannot be assured that actual results will be consistent with these forward-looking statements. Such assumptions include, but are not limited to: our assumptions regarding opportunities and availability of potential new projects; our assumption that we will be able to comply with current and future regulatory requirements; and our assumption that we will be able to compete and keep pace with the industry. In evaluating these statements, readers should specifically consider various factors, including, but not limited to, the risks discussed under the heading "Risk Factors" in our Annual Information Form dated March 27, 2019, or included in section 8 of this MD&A. Additionally, factors that could cause or contribute to such differences include, but are not limited to, the following:

- actions of competitors, including competitors with greater name recognition and financial resources;
- our ability to develop products and technologies that keep pace with the continuing changes in technology, evolving industry standards, new product introductions by competitors and changes in client preferences and requirements;
- our ability to complete, manage and integrate acquisitions;

- our ability to manage the outstanding warranty obligations in connection with the retained responsibility in Solar EPC;
- slower than anticipated adoption of solar LED lighting technology;
- our ability to manage expansion effectively;
- fluctuation in foreign currency exchange rates;
- our reliance on third party manufacturers;
- our ability to purchase components for our products at competitive prices;
- our reliance on sales agents and third parties with whom we have developed strategic relationships to sell our products;
- our reliance on key employees;
- our ability to protect our intellectual property rights;
- environmental and regulatory compliance;
- our reliance on government contracts and subsidies;
- problems with product quality or reliability;
- downturns in general economic and market conditions;
- our ability to maintain adequate liquidity or raise sufficient debt or equity financing when needed;
- risk that we may become involved in disputes, litigation or arbitration proceedings;
- our ability to mitigate cybersecurity risks and protect confidential information;
- our ability to find a suitable and appropriate investment for the use of proceeds from the SPX divestiture;
- risk that anticipated benefits from any acquisitions will be realized;
- our ability to implement changes and programs successfully on a timely basis;
- our ability to achieve future profitability upon a potential reorganization or restructuring of our businesses;
- geopolitical or other global or local events; and
- our ability to sell certain products as a result of changes to policy and/or regulation in jurisdictions where we sell products.

Except as otherwise indicated, forward-looking statements do not reflect the potential impact of any non-recurring or other unusual items or of any dispositions, mergers, acquisitions, other business combinations or other transactions that may be announced or that may occur after the date hereof. The financial impact of these transactions and non-recurring and other unusual items can be complex and depends on the facts particular to each of them. We therefore, cannot describe the expected impact in a meaningful way or in the same way the Company presents known risks affecting its business.

Readers should not place undue reliance on forward-looking statements. The forward-looking statements in this MD&A are made as of the date hereof. We do not assume any obligation to update the forward-looking information contained in this MD&A other than as required by applicable laws (including without limitation Section 5.8(2) of National Instrument 51-102 Continuous Disclosure Obligations).

1. Financial Highlights

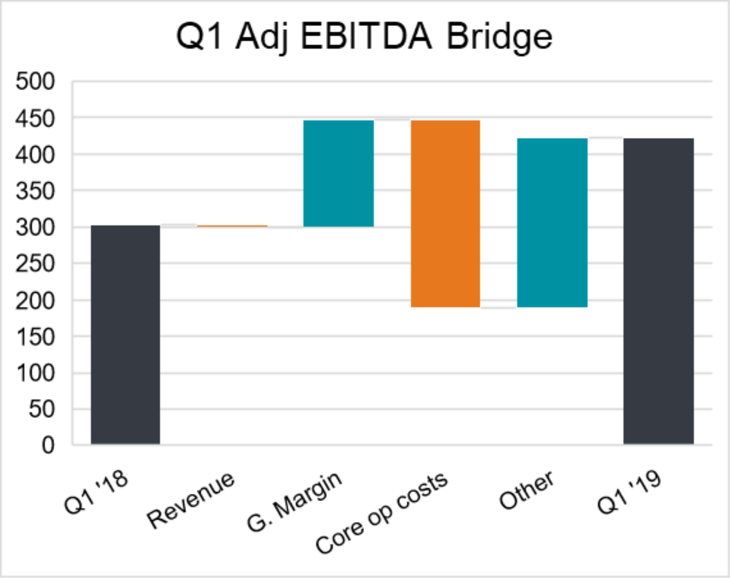
FINANCIAL HIGHLIGHTS FOR THE THREE MONTHS ENDED MARCH 31, 2019 AND 2018

Three months ended March 31

US$ thousands	2019	2018	Change
Revenue	7,852	7,860	(0.1)%
Gross margin	3,014	2,871	5.0%
Gross margin %	38.4%	36.5%	n.a.
Core Operating Expenditures *	3,210	2,953	8.7%
Net income/(loss)	(513)	(88)	483.0%
Adjusted EBITDA *	415	309	34.3%

*Adjusted EBITDA and Core Operating Expenditures are Non-IFRS measures which are discussed in section 3.

ADJUSTED EBITDA BRIDGE



BACKLOG RECONCILIATION

US$ thousands	Q4 closing	Bookings	Revenue	Q1 closing
Signals	2,992	3,271	3,280	2,983
Offshore	2,494	1,908	2,913	1,489
Illumination	1,352	419	1,659	112
Total	**6,838**	**5,598**	**7,852**	**4,584**

FIRST QUARTER

In the first quarter of 2019, we generated revenues of $7.8 million, which is consistent with the first quarter of 2018. Our Signals segment revenues increased $0.9 million or 39.4% for the quarter; our Offshore segment revenues decreased by $1.2 million or 29.2%; and our Illumination segment revenues increased $0.3 million or 19.0%. Within our Signals segment, we increased revenues in both our Telematics ($0.1 million) and Traffic ($0.8 million) verticals.

Gross margin percentage in the first quarter of 2019 was 38.4%, up from 36.5% in the same period in 2018.

Core Operating Expenditures in the first quarter of 2019 are $3.2 million, up $0.3 million or 8.7% over the same period in 2018, primarily due to an increase in development costs. Net loss for the first quarter of 2019 was $0.5 million, compared to a Net Loss of $0.1 million in the same period in 2018. The increase in net loss is primarily due to an increase of $0.5 million in foreign exchange losses incurred during the period.

Our management relies on Adjusted EBITDA (a non-IFRS measure) to gauge financial performance. In the first quarter of 2019, our Adjusted EBITDA was $0.4 million or 5.3% of revenue, compared to $0.3 million or 3.9% of revenue in the prior year period.

2. Our Business

BUSINESS OVERVIEW

We design, develop and distribute a portfolio of products focused on energy optimized LED solutions for infrastructure. Since 1996, we have earned a global reputation for delivering durable, dependable, efficient and cost-effective solutions for industrial applications that perform in some of the world's harshest environments. We manage our business within three reportable segments: Signals, Illumination and Offshore. The Signals segment serves the Traffic and Telematics markets. The Illumination segment provides solar powered LED outdoor lights for municipal and commercial customers, while the Offshore segment specializes in the provision of comprehensive safety and marking systems for offshore wind farms. As discussed in the "about this MD&A" section, Offshore became a new reportable segment in 2018.

The tables below provide an overview of these segments and the verticals or businesses they serve.

Signals	
Airfield*	Our Airfield Lighting business specialized in solving airfield lighting challenges for clients in off-grid or weak-grid locations. This vertical's self-contained solar airfield lights supported daily flight operations at helipads and airstrips in demanding environments around the globe and included both military and civilian airports. Carmanah's main competitors for this business included Avlite Systems Pty Ltd., and Metalite Aviation Lighting.
Obstruction*	Our Aviation Obstruction business provided practical and cost-effective solutions for aviation hazard marking, barricade lighting, way-finding, railway blue flag protection, equipment marking and more by way of Carmanah's solar powered self-contained LED lighting products. Carmanah's main competitors in this sector included Avlite Systems Pty Ltd., Dialight PLC and Flash Technology LLC.
Marine*	Carmanah's Marine business provided total marine aids-to-navigation products and systems for Coast Guards, marine authorities, navies and ports around the globe. Our main competitors in the marine market included Sealite Pty Ltd., and Tideland Signals Corporation.
Traffic	We serve the North American traffic safety market through the provision of solar powered and grid-connected flashing beacons for pedestrian crosswalk signals, school zone flashers, 24-hour roadway beacons and radar speed check signs. Our main competitors in the Traffic vertical include JS Foster Corporation and Traffic & Parking Control Company Inc.

Telematics

Our Telematics business is currently focused on designing and manufacturing devices to enable remote monitoring of assets. This vertical was created based on the expected opportunity to utilize our knowledge and expertise in solar and energy management systems to build and/or design solar-powered engines to expand the capabilities of new or existing asset tracking devices.

* Discontinued Operations. As described above and below in Section 4, we divested the Marine and Aviation Obstruction and Airfield Ground Lighting businesses as part of the SPX Divestiture.

Illumination

Illumination

Our Outdoor Lighting business provides advanced solar powered LED illumination products for pathways, parking lots and streets. Our main competitors in the North American market for outdoor lighting are Solar Electric Power Company, Greenshine Solar Lighting, First Light Technologies, Clear Blue Technologies, Urban Solar and Solar One Solutions Inc. Internationally we have a variety of competitors operating in different areas of the world.

Offshore

Offshore Wind

Our Offshore Wind business specializes in the provision of comprehensive safety and marking systems for offshore wind farms. Our main offshore wind competitors include Dialight A/S, Tideland Signals, Xylem Inc., Sealite Pty Ltd. And Pharos Marine Automatic Power Ltd.

For the purposes of discussing our operating results in this MD&A, we have presented our financial information based on our continuing operations unless otherwise noted.

In 2019 we continued to make significant progress to focus our business operations, culminating with the divestiture of our Marine, Aviation Obstruction and Airfield Ground Lighting verticals to SPX Corporation for $77.6 million in cash. The SPX Divestiture was completed on February 1, 2019 and our cash reserves are now $88.0 million. Due to this recent and material change in our business, Management and the Board of Directors are currently evaluating our go-forward strategy and focus. As such, we have removed disclosure relating to our vision, strategy, tactics, innovation efforts, organic growth prospects, last mile partners and acquisition strategy under "Our Business" section above.

In addition, we have removed the disclosure relating to the key performance measures (previously Section 3), although important, these measures are no longer relevant for comparative purposes in 2019 due to the discontinued operations.

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INDUSTRY TRENDS AND OUTLOOK

There are a number of industry trends that we expect to impact our businesses. By segment, these include the following:

Signals – Our Signals segment is now primarily focused on our Traffic vertical. The Traffic vertical continues to be a North American market opportunity, in which trends such as smart cities, autonomous cars and connectivity continue to rapidly evolve. We expect this evolution will likely require all signalling products to be connected to data networks and to be monitored and controlled remotely. In addition to providing warning lights, these "connected" devices are likely to be data gateways that provide a variety of sensor data intended to increase safety and further reduce operating costs for our customers. Also reported within our Signals segment is our Telematics vertical, which continues to manufacture the Solar Smart One asset tracking device for GlobalStar. We now consider this vertical to be limited to just this project, with the current manufacturing contract scheduled to expire in 2021.

Illumination – Our Illumination segment continues to be dominated by industry trends such as improving LED, solar panel and battery efficiencies, all of which have an impact on power consumption. Our solar powered outdoor street lighting product, branded EverGen, is able to produce expected light levels for streets, parking lots and pathways. The power requirements for this product are much lower than in the past and are likely to continue to trend lower in the future, making the use of solar powered lighting more economically feasible over time. Accordingly, we expect growth rates for solar outdoor street lighting to increase.

Offshore – Our Offshore Wind segment continues to see global expansion. In the near-term, Europe is expected to dominate the market share, but over the next decade we expect new markets, including Asia and the United States, to become major contributors to offshore wind capacity construction.

3. Non-IFRS Financial Measures

Non-IFRS financial measure, like EBITDA, Adjusted EBITDA and Core Operating Expenditures do not have any standardized meaning under IFRS and therefore may not be comparable to similar measures presented by other issuers.

EBITDA AND ADJUSTED EBITDA

For the three months ended March 31, 2019, we are disclosing EBITDA and Adjusted EBITDA, both of which are non-IFRS financial measures, as supplementary indicators of operating performance. We define EBITDA as net income or loss before interest, income taxes, amortization, and non-cash stock-based compensation. Adjusted EBITDA removes unusual or non-operating items from EBITDA, such as merger and acquisition costs, restructuring charges, asset write offs, and foreign exchange gains and losses. We are presenting the non-IFRS financial measures in our filings because we use them internally to make strategic decisions, forecast future results and to evaluate our performance. We are also presenting these measures because we believe that our current and potential investors, and many analysts, use them to assess our current and future operating results and to make investment decisions. EBITDA and Adjusted EBITDA are not intended as a substitute for IFRS measures.

	Three months ended March 31,	
US$ thousands	**2019**	**2018**
Net income/(loss) from continuing operations	(513)	(88)
Add/(deduct):		
Interest expense/(income)	(173)	61
Income taxes recovery	(120)	(3)
Amortization**	417	241
Non-cash stock-based compensation	60	119
EBITDA *	**(329)**	**330**
Merger and acquisition costs	200	-
Extraordinary legal costs	1	43
Other non-recurring expenses/(income)	-	(55)
Foreign exchange (gain)/loss	543	(9)
Adjusted EBITDA *	**415**	**309**

** A Non-IFRS measure defined above*

*** Current year includes $0.07 million of additional amortization due to the adoption of IFRS 16*

CORE OPERATING EXPENDITURES

For the three months ended March 31, 2019, we are presenting Core Operating Expenditures, a non-IFRS financial measure, as a supplementary indicator of operating performance. We define Core Operating Expenditures as operating expenditures excluding non-recurring items, such as the recognition of previously unrecognized investment tax credits or restructuring charges ("Core Operating Expenses"). For the three months ended March 31, 2019, Core Operating Expenditures is calculated as the total of sales and marketing, R&D and general and administrative expenses. We are presenting the non-IFRS financial measures in our filings because we use them internally to make strategic decisions, forecast future results and to evaluate our performance. We are also presenting these measures because we believe that our current and potential investors, and many analysts, use them to assess our current and future operating results and to make investment decisions.

4. Operational and Business Highlights

DISCONTINUED OPERATIONS

On December 12, 2018, we announced and entered into a purchase agreement with SPX regarding the sale of a significant portion of Carmanah's assets including all of the issued and outstanding equity interests in its Marine business, the business and assets of the Company's Airfield Ground Lighting business, its Aviation Obstruction Lighting business as well as some miscellaneous business assets that support the businesses sold. The SPX Divestiture was completed on February 1, 2019 for total proceeds of $77.6 million, including working capital. As at December 31, 2018 the financial results of these businesses have been classified as discontinued operations and therefore comparative information has been restated in the Company's 2019 interim consolidated financial statements.

NORMAL COURSE ISSUER BID

On June 8, 2018, Carmanah announced that the Toronto Stock Exchange ("TSX") accepted the Company's notice of intention to commence a Normal Course Issuer Bid ("NCIB"), which would allow the Company to purchase up to 1,264,446 of its common shares, representing approximately 10% of its public float as of June 8, 2018. The program commenced on June 13, 2016 and can continue until June 12, 2019 or an earlier date should the Company complete its purchases.

The average daily trading volume of our common shares over the six-month period ending May 31, 2018, as calculated per the TSX rules, was 10,192 common shares. Consequently, under TSX rules, we were allowed to purchase daily, through the facilities of the TSX, a maximum of 2,548 common shares representing 25% of such average daily trading volume, subject to certain exceptions for block purchases. We paid the market price at the time of acquisition of any common shares in accordance with the rules and policies of the TSX and applicable securities laws.

We undertook the NCIB because, in the opinion of our Board of Directors, the market price of our common shares, from time to time, does not fully reflect the underlying value of our business. We believed that in such circumstances, the outstanding common shares represent an attractive investment for us since a portion of our excess cash generated on an annual basis can be invested at a positive risk adjusted return on capital through the Bid.

Under this program, during the year ended December 31, 2018, the Company acquired 240,592 of its common shares at prevailing market prices at the time of the transaction. A total of $1.4 million CAD ($1.0 million USD) was used to acquire these shares. All common shares acquired under the NCIB were cancelled and purchases were funded out of our working capital.

ACQUISITION OF INFORMATION DISPLAY COMPANY

On October 2, 2018, the Company acquired all the issued and outstanding common shares of IDC. IDC is a US manufacturer of radar speed signs and other speed displays. The purchase price totaled $1.5 million paid on closing and is included within the Traffic vertical.

The purchase price allocation for the transaction at March 31, 2019, represents management's best estimates of these values.

SEGMENT REPORTING CHANGES

The Offshore segment of our business was previously included within the Signals segment, but due to the SPX Divestiture and the subsequent reclassification of results to discontinued operations as described above and in this Section 4, the Company determined that its Offshore Wind vertical now meets the definition of a reportable segment in accordance with IFRS 8 – *Operating Segments* at December 31, 2018. A new reportable segment was therefore recognized within continued operations. Segment reporting as at March 31, 2018 has been restated to reflect the new reportable segment identified.

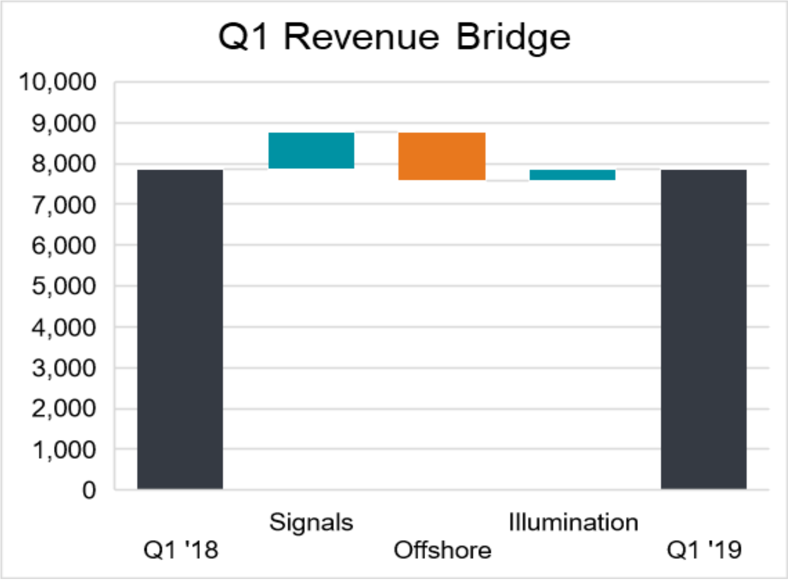
5. Financial Results

As previously noted, the information presented in the sections below have been derived from and should be read in conjunction with our consolidated interim financial statements for the three months ended March 31, 2019.

5.1 THREE MONTHS ENDING MARCH 31, 2019 AND 2018

REVENUE

	Three months ended March 31,		
US$ thousands	**2019**	**2018**	**Change**
Revenues			
Signals	3,280	2,352	39.4%
Offshore	2,913	4,113	(29.2)%
Illumination	1,659	1,395	19.0%
Total revenue	**7,852**	**7,860**	**(0.1)%**



Revenues for the three months ended March 31, 2019 were consistent over the same period in 2018. Comparative changes by segment are as follows:

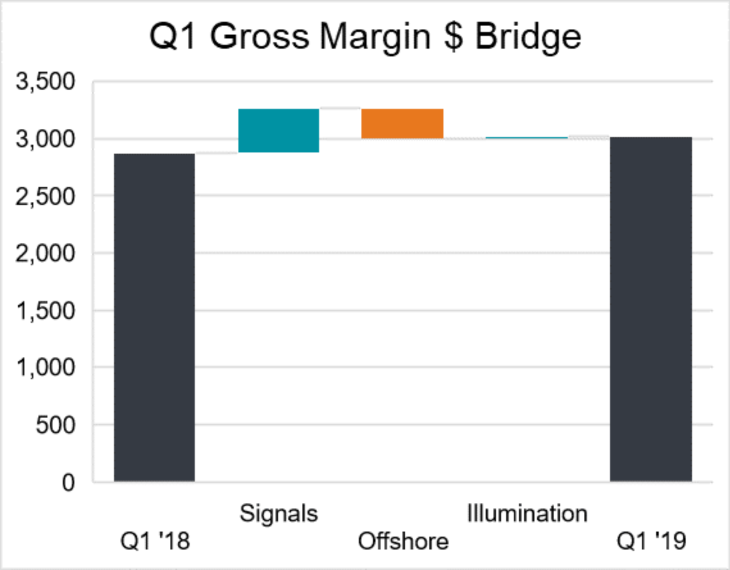
- Signals – The increase in revenues in our Signals segment for the first quarter of 2019 is due to stronger performance in our Telematics vertical due to the addition of product sales as well as service revenues in 2019 (Q1 FY18 period included only service revenues), while our Traffic vertical revenues also grew in the first quarter with the acquisition and integration of IDC as well as strong traffic sales made possible by the patent acquired in March 2018.
- Offshore – The decrease in Offshore segment revenues during the first quarter of 2019 compared to the prior year is due to project delays that are expected to shift revenues into future periods.
- Illumination – The increase in sales in our Illumination segment was due to the full shipment of a large order in the first quarter of 2019, resulting in additional revenue being recognized compared to prior year.

SALES BY GEOGRAPHIC REGION

Approximately 37.4% of our revenues for the first quarter of 2019 were from outside North America, down from 58.2% during the same period in 2018. This decrease can be attributed to the increase in North American product sales for our Telematics vertical combined with a decrease in sales from our Offshore segment in 2019.

GROSS MARGINS

	Three months ended March 31,		
US$ thousands	**2019**	**2018**	**Change**
Signals			
Gross margin	1,447	1,050	37.8%
Gross margin %	44.1%	44.7%	
Offshore			
Gross margin	902	1,170	(22.9)%
Gross margin %	31.0%	28.4%	
Illumination			
Gross margin	664	650	2.2%
Gross margin %	40.0%	46.6%	
Total Gross margin %	**38.4%**	**36.5%**	



Gross margin percentage for the three months ended March 31, 2019 was 38.4%, up from 36.5% over the same period in 2018. Our Illumination segment gross margin percentage decrease was primarily due to a large order that shipped in the first quarter at a lower than normal gross margin.

OPERATING EXPENSES

	Three months ended March 31,		
US$ thousands	**2019**	**2018**	**Change**
Sales and marketing	937	778	20.4%
R&D	477	273	74.7%
General and administration	1,796	1,902	(5.6)%
Total Core Operating Expenditures*	**3,210**	**2,953**	**8.7%**
Non-cash items:			
Amortization	*417*	*241*	73.0%
Stock-based payments	*60*	*119*	(49.6)%

** Core Operating Expenditures is a Non-IFRS measure which is discussed in section 3.*

	Q2 '17	Q3 '17	Q4 '17	Q1 '18	Q2 '18	Q3 '18	Q4 '18	Q1 '19
Sales and marketing	10.8%	8.9%	10.6%	9.9%	10.4%	9.6%	8.9%	11.9%
R&D	6.0%	1.5%	9.8%	3.5%	6.9%	7.3%	6.1%	6.1%
General and administration	21.8%	22.2%	28.0%	24.2%	26.0%	23.0%	23.2%	22.9%
Total Core Operating Expenditures *	**38.6%**	**32.6%**	**48.4%**	**37.6%**	**43.3%**	**39.9%**	**38.2%**	**40.9%**

** Core Operating Expenditures is a Non-IFRS measure which is discussed in section 3.*

Our total core operating expenses for the first quarter of 2019 were $3.2 million, up 8.7% from the same period in 2018.

SALES AND MARKETING

In the first quarter of 2019, our sales and marketing expenses were $0.9 million, up from $0.8 million in the same period in 2018 due to expenses incurred relating to the integration and closure of IDC.

RESEARCH AND DEVELOPMENT

In the first quarter of 2019, our R&D expenses were $0.5 million, up from $0.3 million in the same period in 2018 due to an increase in production hours spent in our Telematics vertical as well as the integration of IDC products into our Traffic vertical.

GENERAL AND ADMINISTRATION

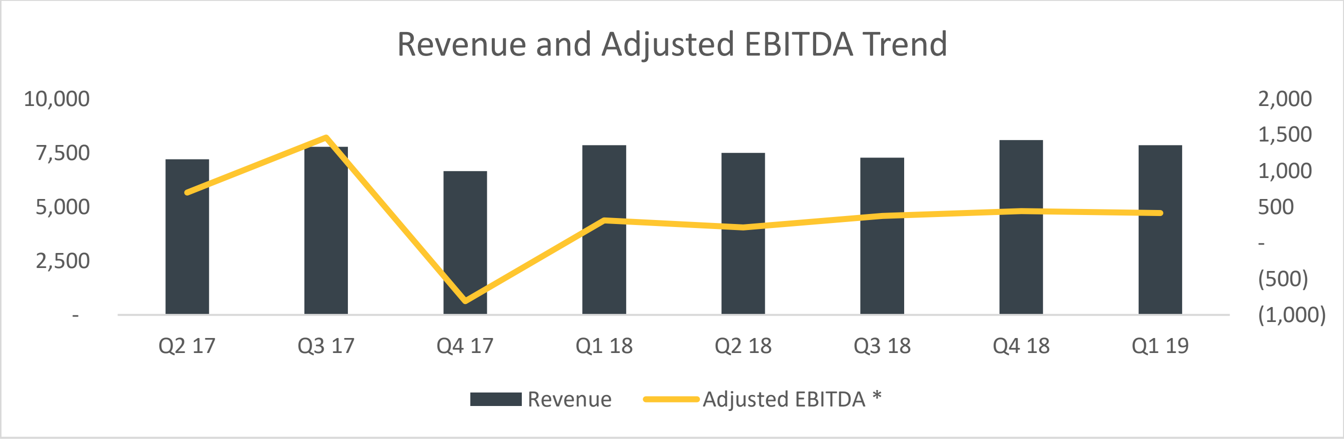
In the first quarter of 2019, our general and administration expenses were $1.8 million down from $1.9 million over the prior year. The decrease was mainly attributable to a decrease in legal, payroll and variable compensation expenses partially offset by an increase in amortization costs relating to a patent acquired in 2018

INCOME TAXES

Income tax recovery for the three months ended March 31, 2019 was $120 thousand, comparable to $3 thousand in 2018.

5.2 QUARTERLY TRENDS

REVENUE AND ADJUSTED EBITDA TREND



US$ thousands (unless noted)	Q2 '17	Q3 '17	Q4 '17	Q1 '18	Q2 '18	Q3 '18	Q4 '18	Q1 '19
Revenue	7,196	7,779	6,652	7,860	7,495	7,275	8,090	7,852
Gross margin %	39.1%	29.1%	33.2%	36.5%	39.3%	38.1%	34.0%	38.4%
Net Income/(Loss) cont ops	(100)	(259)	(671)	(88)	(688)	(227)	387	(513)
Net Income/(Loss), total ops	1,024	10,407	(1,182)	474	(278)	(581)	1,328	42,277
EPS – Basic, cont ops	0.00	(0.01)	(0.03)	(0.01)	(0.04)	(0.01)	0.02	(0.03)
EPS – Diluted, cont ops	0.00	(0.01)	(0.03)	(0.01)	(0.04)	(0.01)	0.02	(0.03)
EPS – Basic, total ops	0.04	0.42	(0.06)	0.02	(0.02)	(0.03)	0.09	2.24
EPS – Diluted, total ops	0.04	0.41	(0.06)	0.02	(0.02)	(0.03)	0.09	2.19
Adjusted EBITDA[1]	697	1,458	(809)	309	212	372	440	415

[1] EBITDA and Adjusted EBTIDA are non-IFRS measures see section 3 for discussion.
Comparative quarters have been restated for discontinued operations.

Our quarterly revenues fluctuate within our business segments primarily due to product mix and the nature of our sales within our market segments. A large portion of our revenues are derived from infrastructure projects that often have long tender processes and fluctuating timelines. This is most pronounced within our Offshore Wind and Illumination segments and to a lesser extent within our Signals segment. The following are comments on quarter to quarter changes relating to continuing operations:

- Q2 2017 to Q3 2017 – The increase in net loss in Q3 2017 of $0.2 million is primarily attributable to lower gross margins resulting from a $0.8 million inventory write-down in the Illumination segment.
- Q3 2017 to Q4 2017 – The increase in net loss in Q4 2017 of $0.4 million was result of a decrease in revenue across multiple verticals including Offshore, Illumination and Traffic offset by tax recoveries.
- Q4 2017 to Q1 2018 – The decrease in net loss in Q1 2018 of $0.4 milion was the result of increased revenues in our Illumination and Offshore segments.
- Q1 2018 to Q2 2018 – The increase in net loss in Q2 2018 of $0.4 million was primarily attributable to increased development expenditure.
- Q2 2018 to Q3 2018 – The decrease in net loss in Q3 2018 of $0.5 million was mainly attributable to lower operating expenses.
- Q3 2018 to Q4 2018 – The increase in net income in Q4 2018 of $0.6 million is mainly attributable to increased revenue from our Offshore and Telematics verticals as well as tax recoveries.
- Q4 2018 to Q1 2019 – The decrease in net income in Q1 2019 is due to increased foreign exchange losses compared to Q4 2018

6. Liquidity, Capital Resources and Other Disclosures

6.1. SUMMARY OF CONSOLIDATED STATEMENT OF CASH FLOWS

Three months ended March 31,

US$ thousands	2019	2018	CHANGE
Net cash (used) in operating activities	(681)	(2,524)	(73.1)%
Net cash provided/(used) by investing activities	77,297	(465)	n.a.
Net cash used in financing activities	(62)	(4,000)	(98.5)%
Net effect of exchange rate changes on cash	(378)	108	n.a.
Total increase/(decrease) in cash from continuing operations	**76,176**	**(6,881)**	n.a.

CASH (USED)/PROVIDED IN OPERATING ACTIVITIES

During the quarter ended March 31, 2019, cash used by our operating activities, excluding changes in non-cash working capital, was $0.9 million, up from $0.1 million for the prior year. This is largely due to outflows relating to deferred taxes and weaker earnings before taxes in 2019.

CASH PROVIDED/USED IN INVESTING ACTIVITIES

During the quarter ended March 31, 2019, cash provided by investing activities was $77.3 million, up from cash used by investing activities of $0.5 million in the same period in 2018. The increase in 2019 is due to the receipt of proceeds from the SPX divestiture.

CASH PROVIDED/USED IN FINANCING ACTIVITIES

During the quarter ended March 31, 2019, cash used in financing activities was $0.06 million, compared to $4.0 million in the same period in 2018. The 2018 period includes the repayment of senior debt.

6.2 LIQUIDITY AND CAPITAL RESOURCE MEASURES

On March 31, 2019, our overall working capital was $89.6 million, up from $42.9 million at December 31, 2018. The increase is mainly due to an increase in cash reserves as a result of the SPX divestiture in 2019.

In the past, our primary source of liquidity has been from equity issuances and, to a lesser extent, our credit facility, which is discussed in the section below. We believe we have ample capital resources and liquidity for our current business for the foreseeable future.

6.3 CREDIT FACILITIES

In early 2015, we signed a new credit facility (the “Facility”) with Canadian Imperial Bank of Commerce (“CIBC”). The Facility provided credit up to $25.75 million through: (1) a $10 million 364-day revolving credit, (2) a $10 million term acquisition credit facility, (3) $3.75 million for letters of credit and (4) $2.0 million for trading room and other liabilities. Our ability to draw on the 364-Day revolver, the credit for the letters of credit, and credit for trading room contingent liabilities is subject to certain covenants. Access to the term acquisition credit facility required CIBC’s review and approval of the specific acquisition transaction.

On July 24, 2017, the Company amended the credit facility with CIBC (the “CIBC Facility”). The CIBC Facility provides up to $25.5 million through: (1) a $10.0 million 364-day revolving credit facility, expiring June 15, 2018, (2) a $15.0 million revolving term acquisition credit Facility and (3) $0.5 million for trading room on contingent liabilities. The Company’s ability to draw on the 364-day committed revolving credit, revolving term acquisition credit, and credit for trading room contingent liabilities is subject to borrowing covenants and conditions typical to these credits. Each of the credits have separately applicable interest rates. During the first six months of 2018, we repaid all of the outstanding loan under the 364-day revolving credit facility. At March 31, 2019, there was: (1) $4.0 million available under the 364-day revolving credit facility, (2) $15.0 million available under the revolving term Acquisition credit facility and (3) $0.5 million available for trading room on contingent liabilities.

In March 2016, our German subsidiary, Sabik Offshore GmbH, secured a new credit facility with Deutsche Bank (the “Deutsche Facility”). The Deutsche Facility provides credit up to $3.6 million through a $2.4 million of revolving credit facility and $1.2 million for guarantees and was secured to support ongoing working capital needs. Interest on the revolving credit facility is variable and is based on the Euro Interbank Offered Rate plus 1.5%. The Deutsche Facility has been guaranteed through a $2.4 million letter of credit issued on the CIBC Facility and a security over inventory within Sabik Offshore GmbH. At March 31, 2019, no amounts were drawn on the revolving credit facility.

6.4 CONTRACTUAL OBLIGATIONS AND COMMITMENTS

We utilize several contract manufacturers who build and supply our manufactured products. Our agreements with these contract manufacturers generally require us to be liable for inventory and outstanding committed purchase orders required to support our business. If one of these agreements is terminated, we would be required to purchase the associated underlying inventory or arrange for a new contract manufacturer to acquire and hold it in a similar capacity. At present, we have relationships with two significant contract manufacturers. Under the terms of the contract manufacturing agreements, we are required to purchase excess raw inventory in situations where our demand forecasts for individual products is less than actual purchases. At March 31, 2019, the contract manufacturers held approximately $1.5 million (December 31, 2018 - $1.0 million) in inventory and $1.3 million (December 31, 2018 - $1.0 million) in outstanding committed purchase orders.

6.5 CLAIMS AND LAWSUITS

On July 18, 2013, the Company was named in a United States District Court lawsuit filed by R.D. Jones, Stop Experts, Inc., and RRFB Global, Inc. (collectively the “Plaintiffs”) alleging patent infringement with respect to a specific flash pattern used in our solar powered flashing beacons for the traffic safety market and other claims relating to advertising and business practices. On March 20, 2018, the Company purchased the patents in question from R.D. Jones for a total price of $2.4 million to be paid over a 4-year period. The unpaid portion of this payable has been treated as a non-cash transaction in the Company's consolidated statement of cash flows. As a result of this purchase, this matter is considered closed with no further obligations by either party.

In June 2017, the Company was named in an Ontario Supreme Court claim filed by Ameico Enterprise under the Construction Lien Act stating a breach of trust for failure to pay contracts for change orders in the amount of $0.7 million. The lawsuit seeks to recover legal expenses, interest on amounts owing and damages. As at March 31, 2019, the Company has recorded a provision of $0.3 million as this represents the Company's best estimate as to the likely amount that will be paid in order to settle this claim, including legal costs.

In August 2018, the Company was served with a legal claim in which it was named as a defendant in a case filed in the Circuit Court of Cook County, Illinois by the administrator of the estate of an individual who was killed in a boating accident in 2016. The plaintiff alleges, among other things, that the Company was negligent in the design, manufacture or sale of a marine lantern that was installed near the site of the accident. The Company denies any liability and is defending the case in cooperation with its insurers. The Company has concluded no provision is required as at March 31, 2019.

In the ordinary course of our business, we may become involved in various claims and legal proceedings seeking monetary damages and other relief in addition to those matters outlined above. Due to the inherent risks and uncertainties of the litigation process, we cannot predict the final outcome or timing of claims and legal proceedings. Based on information currently available, and following consultation with our legal advisors and insurance providers and management's assessment of the merits of the claims and legal proceedings pending at March 31, 2019, we believe that the ultimate resolution of these claims and legal proceedings is not likely to have a material and negative effect on our financial statements or operations. No provision is or will be included in the Company's financial statements for such claims and legal proceedings until such time as management determines that it is probable that a claim will result in an outflow of economic resources.

6.6 CONTINGENT LIABILITY

We have entered into agreements with third parties that include indemnification provisions that are customary in the industry. These indemnification provisions generally require us to compensate the other party for certain damages and costs incurred as a result of third party claims or damages arising from these transactions. The maximum amount of potential future indemnification is unlimited; however, we currently hold commercial and product liability insurance. This insurance limits our exposure and may enable us to recover a portion of any future amounts paid. Historically, we have not made any indemnification payments under such agreements and we believe that the fair value of these indemnification obligations is minimal. Accordingly, we have not recognized any liabilities relating to these obligations for any period presented.

6.7 OFF BALANCE SHEET ARRANGEMENTS

We have not entered any off-balance sheet arrangements other than standard office/facility lease agreements and vendor managed inventory as noted under section 6.4, Contractual obligations and commitments.

6.8 FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

The fair value of our accounts receivable, accounts payable and accrued liabilities approximates their carrying value due to the immediate or short-term maturity of these financial instruments.

We are exposed to foreign exchange risks as we transact business and have working capital denominated in multiple currencies. We attempt to minimize our exposure through managing our working capital and entering foreign exchange products or contracts when and where appropriate. As of March 31, 2019, the Company has contracts to purchase a total amount of $1.85 million Canadian dollars at any time during 2019 at guaranteed rates in exchange of $1.38 million U.S. dollars. These contracts were entered into for the purpose of meeting operational needs and not as speculative investments. The unrealized mark-to-market loss of $0.05 million as of March 31, 2019 has been included in trade and other payables on the Interim Consolidated Statement of Financial Position. As at March 31, 2019 the Company held cash reserves in various currencies as per the table below:

	US dollar	Canadian dollar	Euro	New Zealand dollar	GBP	Total
Cash at March 31, 2019	27,800	59,008	1,029	173	22	**88,032**

6.9 SUBSEQUENT EVENTS

As announced in a press release dated May 07, 2019, the company received a non-binding offer from entities controlled by two directors of the Company to purchase all outstanding Carmanah shares, not already owned by these directors, at a price of $7.35 Canadian dollars per share, payable in cash. The Company has established a special committee to consider the offer and until this committee completes its work and analysis, there can be no certainty that a definitive transaction will be agreed or, if any such transaction is agreed, what the terms of the transaction will contain. These interim consolidated financial statements have not been adjusted to reflect the possible outcome of this transaction.

OUTSTANDING SHARE DATA

Our Shares trade on the Toronto Stock Exchange under the symbol "CMH", and as at March 31, 2019 we had 18,859,877 fully issued and outstanding Shares. The following table summarizes the outstanding Shares, options and other outstanding stock units stated in CAD$.

	May 09, 2019	March 31, 2019	December 31, 2018	June 30, 2018	March 31, 2018
Share price – closing	7.15	6.73	6.00	4.90	4.40
Market capitalization (in thousands)	134,848	126,927	113,159	93,122	83,258
Outstanding					
Shares	18,859,877	18,859,877	18,859,877	19,004,528	18,922,210
Options	1,485,294	1,485,294	1,491,294	1,588,443	1,680,053

7. Critical Accounting Estimates and Accounting Policy Developments

7.1 CRITICAL ACCOUNTING ESTIMATES

Our financial statements are prepared in accordance with IFRS. The application of IFRS requires that we make estimates that affect our reported amounts of assets and liabilities and the disclosure of contingencies at the date of the financial statements and the reported amounts of revenues and expenses during the period. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ significantly from these estimates. Unless otherwise noted the estimates are inclusive of all our reportable market segments described in Section 2 including those operations which were discontinued pursuant to the SPX Divestiture.

The significant accounting policies and estimates are discussed below:

Accounting	Estimates
Forfeiture rates associated with share-based payments	In determining share-based payments expense, we make estimates related to forfeiture rates, volatility and expected term for each specific grant. Forfeiture rates are used to estimate the number of awards that are expected to vest considering employee turnover rates. Expected volatility has been based on an evaluation of the historical volatility of the Company's share price, particularly over the historical period that commensurate with the expected term. The expected term of the instruments is estimated based on historical experience and general option holder behavior. The changes in estimates are recognized in the Consolidated Statements of Income and Total Comprehensive Income in the year that they occur. Current forfeiture rates applied to grants range from 14% to 26% and vary depending upon the employee make-up of the associated grants.
Impairment of assets	Each year the Company makes significant judgments in assessing if goodwill, tangible or intangible assets have suffered an impairment loss. The Company's impairment analysis involves the determination of identification of cash generating unit ("CGU"). The use of an income approach is applied that relies on estimating the future net cash flows and applying the appropriate discount rate to those future cash flows. Significant management judgment is necessary to evaluate the impact of operating and economic changes on each CGU or underlying asset. Critical assumptions include projected sales growth and market opportunities, future profitability of system sales, operating and administrative expense, capital expenditures, an appropriate discount rate, and in some situations, the cost of disposal. Non-current assets classified as held to sale are recorded at the lower of its carrying value or fair value less costs to sell. Management judgment is necessary to evaluate the fair value less costs to sell and critical assumptions include market opportunities and costs to sell. During the fiscal years ended December 31, 2018 and 2017, there were no impairment losses. Our impairment analysis at December 31, 2018 involved the use of income approach that relied on estimating the future net cash flows and applying an appropriate discount rate to those future cash flows. This approach employed the following key assumptions: anticipated sales growth in key markets, changes in gross margins due to pricing changes for materials and the cost of manufacturing, changes in

Accounting	Estimates
	operating and administrative expenses, anticipated capital expenditures, and an appropriate discount rate. The forecast period utilized in the analysis covered 2019 through 2023. For the assessment of the goodwill and intangibles acquired in the Sabik Group acquisition specifically relating to our Offshore segement, key drivers included anticipated sales growth estimated between 1% and 66.2% for the next five years, a terminal growth rate of 1% and a weighted average cost of capital of 20%. The results of the analysis indicated an excess over carrying value of $6.3 million. For the assessment of the goodwill and intangibles acquired in the Sol acquisition, key drivers included anticipated sales growth estimated between 14.6% and 18.7% for the next five years, a terminal growth rate of 2% and a weighted average cost of capital of 12.2%. The results of the analysis indicated an excess over carrying value of $1.0 million. For the assessment of the goodwill and intangibles acquired in the IDC acquisition, key drivers included anticipated sales growth of 5% for the next five years, a terminal growth rate of 2% and a weighted average cost of capital of 12.2%. The results of the analysis indicated an excess over carrying value of $13.5 million.
Income Tax	Carmanah calculates income tax provisions in each of the jurisdictions in which it operates. Actual amounts of income tax expense only become final upon filing and acceptance of the tax return by the relevant authorities, which occurs subsequent to the issuance of the financial statements. Additionally, estimation of income taxes includes evaluating the recoverability of deferred tax assets based on an assessment of the ability to use the underlying tax deductions before they expire against future taxable income. The assessment is based upon existing tax laws and estimates of future taxable income. To the extent estimates differ from the final tax returns, earnings would be affected in a subsequent period.
Assets and liabilities acquired in business combinations	In a business combination, Carmanah may acquire the assets and assume certain liabilities of an acquired entity. The estimate of fair values for these transactions involves judgment in determining the fair values assigned to the tangible and intangible assets (e.g. technology, brand, order backlog, etc.) acquired and the liabilities assumed on the acquisition. The determination of these fair values involves a variety of assumptions, including estimates surrounding costs to acquire or reproduce a similar asset, expected cash flows, discount rates, etc. Contingent consideration resulting from business combinations is recorded at fair value at the acquisition date as part of the business combination based on expected discounted cash flows, and is subsequently remeasured to fair value at each reporting date with any subsequent change in fair value recognized in the Consolidated Statements of Income and Total Comprehensive Income.

7.2 ADOPTION OF NEW ACCOUNTING STANDARDS

The significant accounting policies that have been applied, on a consistent basis, in the preparation of these consolidated financial statements are included in the Company's audited consolidated financial statements for the year ended December 31, 2018. Those accounting policies have been used throughout all periods presented in the condensed consolidated interim financial statements, except as noted below.

IFRS 16 – LEASES

IFRS 16, Leases ("IFRS 16") replaces IAS 17, Leases ("IAS 17") and related interpretations. Under IFRS 16, a lease exists 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 require an asset and liability to be recognized on the Statement of Financial Position at inception. The standard is effective for annual periods beginning on or after January 1, 2019.

The Company has adopted IFRS 16 using the modified retrospective approach and has applied the following practical expedients permitted by the standard:

- the use of the modified retrospective approach with no restatement of prior periods. For contracts previously classified as operating leases, the Company has elected for the right-of-use asset to equal the lease liability, adjusted for any prepaid amount; and
- the election not to recognize leases for which the underlying asset is of low value.

The Company recognizes a right of use asset and a lease liability at the lease commencement date. The right of use asset is initially measured based on the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred less any lease incentives received. Right of use assets are subsequently depreciated on a straight-line basis from the commencement date to the earlier of the end of the asset's useful life or the end of the lease term. The lease term includes consideration of an option to renew or to terminate if the Company is reasonably certain to exercise that option. The right of use asset is periodically reduced by impairment losses, if any, and adjusted for remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the Company's incremental borrowing rate. The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising mainly from a change in an index or rate or if the Company changes its assessment of whether it will exercise a purchase, renewal or termination option.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying value of the right of use asset or is recorded in profit or loss if the carrying amount of the right of use asset has been reduced to zero.

On transition to IFRS 16, the Company recognized a right of use asset and lease liability of $0.7 million. When measuring operating lease commitments, the Company discounted lease payments using its incremental borrowing rate at January 1, 2019. The weighted-average rate applied is 4.67%.

IFRIC 23- UNCERTAINTY OVER INCOME TAX TREATMENTS

In 2017, the IASB issued IFRIC Interpretation 23 Uncertainty over Income Tax treatments ("IFRIC 23" or "the Interpretation"). The Interpretation provides guidance on the accounting for current and deferred tax liabilities and assets in circumstances in which there is uncertainty over income tax treatments. The Interpretation requires:

- an entity to contemplate whether uncertain tax treatments should be considered separately, or together as a group, based on which approach provides better predictions of the resolution;

-an entity to determine if it is probable that the tax authorities will accept the uncertain tax treatment; and

-if it is not probable the uncertain tax treatment will be accepted, measure the tax uncertainty based on the most likely amount or expected value, depending on whichever method better predicts the resolution of the uncertainty.

The Interpretation is effective for annual periods beginning on or after January 1, 2019. The Company has retrospectively adopted the new interpretations with no impact on the interim consolidated finance statements.

7.3 DISCLOSURE CONTROLS AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

DC&P have been designed to provide reasonable assurance that information required to be disclosed is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosure. Internal control over financial reporting ("ICFR") have been designed to provide reasonable assurance regarding the reliability of financial reporting. Pursuant to Multilateral Instrument 52-109, the Chief Executive Officer ("CFO) and Chief Financial Officer ("CFO") are responsible for over-seeing the establishment and maintenance of DC&P as well as internal controls over financial reporting.

DISCLOSURE CONTROLS

Our officers and management have evaluated the effectiveness of our DC&P as at March 31, 2019 as required by Canadian securities laws. The evaluation approach involved looking at the size, nature and state of development of the business and thus used a top down risk-based approach to focus evaluation on areas that were deemed to provide the greatest risk to a material misstatement. Our evaluation also considered our corporate disclosure procedures and the functioning of our CEO, CFO, other executive officers, management, Board, and Audit Committee. Based on this evaluation, our CEO and CFO concluded that the Company's DC&P were effective, at a reasonable assurance level, to ensure that material information relating to the Company and its consolidated subsidiaries would be made known to them by others within those entities, particularly during the period in which the MD&A and the consolidated financial statements contained in this report were being prepared.

INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for establishing and maintaining adequate ICFR. ICFR is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. Due to its inherent limitations, ICFR may not prevent or detect misstatements. Management has assessed the effectiveness of the Company's ICFR using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control – Integrated Framework (2013). Based on this assessment, management has determined that the Company's ICFR was effective as of March 31, 2019.

8. Risks and Risk Management

During operations, we are exposed to various business risks and uncertainties that can affect our financial condition. While some financial exposures are reduced through insurance, hedging and other risk management measures we have in place, there are certain cases where the market and operating risks are driven by external factors beyond our influence and control. A discussion of certain risks that may affect us is included in our MD&A and annual information form for the year ended December 31, 2018 filed on SEDAR at www.sedar.com.