



CARL DATA SOLUTIONS INC.

**MANAGEMENT'S DISCUSSION & ANALYSIS
FOR THE YEAR ENDED JUNE 30, 2018**

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General

This Management's Discussion and Analysis ("MD&A") of CARL Data Solutions Inc. ("CARL," or the "Company") is dated October 25, 2018 and provides a review of the Company's financial results, from the viewpoint of the management, for the year ended June 30, 2018 ("F2018-Q4") compared to the year ended June 30, 2017 ("F2017-Q4").

The following information should be read in conjunction with the Company's audited consolidated financial statements with accompanying notes for the fiscal year ended June 30, 2018 ("F2018"), which were prepared in accordance with International Financial Reporting Standards ("IFRS").

All dollar figures are expressed in Canadian dollars unless otherwise stated. These documents and additional information on the Company are available on the SEDAR website at www.sedar.com.

Cautionary Statement Regarding Forward-Looking Statements

Certain statements contained in this document constitute "forward-looking statements". When used in this document, the words "may", "would", "could", "will", "intend", "plan", "propose", "anticipate" and "believe", are intended to identify forward-looking statements. Such statements reflect the Company's "forecast", "estimate", "expectation" and similar expressions as they relate to the Company's current views with respect to future events and are subject to certain risks, uncertainties and assumptions.

The forward-looking statements contained in this MD&A are made as of the date hereof and represent the Company's views as of the date of this document. While the Company believes that the expectations reflected in the forward-looking statements and information contained herein are reasonable, no assurance can be given that these expectations, or the assumptions underlying these expectations, will prove to be correct. The Company acknowledges that subsequent events and developments may cause the views expressed herein to change, however, the Company has no intention and undertakes no obligation to update, revise or correct such forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable securities law. Therefore, there can be no assurance that forward-looking statements contained herein will prove to be accurate as actual results and future events could differ materially from those expected or estimated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.

Description of Business

CARL Data Solutions Inc. ("CARL" or the "Company") was incorporated under the Business Corporations Act (British Columbia) on January 17, 2014. CARL is a developer of Big-Data-as-a-Service ("BDaaS")-based solutions, providing the next generation data collection, storage and analytic solutions for data-centric companies.

CARL is a public company that is listed on the Canadian Securities Exchange ("CSE") (under the symbol: CRL), the Frankfurt Stock Exchange (under the symbol: 7C5) and the OTC Pink (under the symbol: CDTAF). The head office and principal address of the Company is located at Suite 488 – 1090 West Georgia Street, Vancouver, British Columbia, V6E 3V7. The Company's consolidated financial statements include the financial statements of the following subsidiaries:

Company	Place of Incorporation	Effective Interest
Extend to Social Media Inc. ("ETS")	British Columbia	100%
FlowWorks Inc. ("FlowWorks")	Washington, USA	100%
Carl Data Solutions PL ("Carl PL")	Poland	100%
Astra Smart Systems Inc. ("Astra")	British Columbia	100%

CARL has spent the past year identifying, closing and integrating the two acquisitions, FlowWorks and Astra Global into the core business. The strategy has been to build the internal development team to create the software platforms and build a world class technology team to create the Infrastructure as a service layer including data center assets. This team has been sourced across three continents to attract the best talent available. CARL now has all the elements in place to successfully take on the Industrial Internet of things ("IIoT") space as required for smart cities.

The combined capabilities of the business allow the Company to respond to the demands and visions of individual utilities within a smart city environment delivering smart water and waste solutions that not only harness the world of the IIoT sensors, on site data loggers that are connected to the cloud, but also Artificial Intelligence algorithms and Global predictive data to overlay future demands the imponderables such as weather fluctuations and product of service utilization.

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This unique platform has now been adopted by numerous cities across the US and Canada and is performing well gathering, collecting enormous data sets from CARL's own IIoT sensors and a myriad of third-party end point devices. Embedded within the platform is an anomaly detector that sifts out the erroneous or irrelevant data points that can easily throw of false negatives and mislead decisioning. The clean and relevant data is then analysed, overlaying predictive artificial Intelligence then presenting the new, real time data in an easy to interpret dashboard for rapid and collaborate decision making.

The addressable markets of water and waste are significant but with the new technology agnostic data gathering, analytics and AI engine the Company is in a strong position for strong growth in the smart city and building sector.

Going Concern

These consolidated financial statements have been prepared on a going concern basis, which assumes that the Company will be able to meet its obligations and continue its operations for its next fiscal year. Realization values may be substantially different from carrying values as recorded in these audited consolidated financial statements. These consolidated financial statements do not give effect to adjustments that would be necessary to the carrying values and classification of assets and liabilities should the Company be unable to continue as a going concern. At June 30, 2018, the Company had not achieved profitable operations, had accumulated a deficit of \$13,689,607 since inception and expects to incur further operating losses in the development of its business. The Company's ability to continue as a going concern is dependent upon the ability to develop its business units, develop marketable software, potentially find, acquire and develop various other business segments with growth potential, its ability to obtain the necessary financing to carry out this strategy, and to meet its corporate overhead needs and discharge its liabilities as they come due. Although the Company has been successful in the past in obtaining financing, there is no assurance that it will be able to obtain adequate financing in the future or that such financing will be on terms advantageous to the Company. These matters indicate material uncertainties that may cast significant doubt about the Company's ability to continue as a going concern.

Selected Financial Information

The following sets out selected consolidated financial information of the Company for the period indicated, which has been derived from the Company's audited consolidated financial statements. Users of this information should read the following in conjunction with those statements and the previously filed annual statements.

	June 30, 2018	June 30, 2017	June 30, 2016
Total Revenue	\$ 1,258,912	\$ 1,190,399	\$ 808,261
Total Expenses	6,432,430	5,807,163	4,738,781
Net Loss	(4,708,518)	(4,616,764)	(3,790,289)
Basic and Diluted Loss per Share	(0.08)	(0.12)	(0.14)
Total assets	4,385,604	1,423,721	1,799,508
Non-current financial liabilities	10,000	357,999	60,238

Recent Events & Overall Performance

Completed Private Placements and share issuances

During and subsequent to the year ended June 30, 2018, the Company issued common shares as follows:

- (i) On July 4, 2017, the Company issued 888,888 common shares in settlement of the dissenting shareholder liability at a deemed price of \$0.31 per common share. Included in profit or loss is a gain of \$26,667 related to the difference between market value of the shares on settlement and the value accrued at June 30, 2017.
- (ii) On September 5, 2017, the Company completed the first tranche of a non-brokered private placement by issuing 2,055,000 common share units (each, a "Unit") at a price of \$0.26 per unit for gross proceeds of \$534,300. Each Unit was comprised of one common share and one common share purchase warrant, each warrant being exercisable at a price of \$0.40 per share for a period of two years from issuance and are subject to accelerated expiration in the event that shares trade at a price greater than \$0.75 per share for ten consecutive trading days.

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In connection with the offering, the Company paid a cash commission of \$42,744 and issued 164,400 non-transferrable unit finder's warrants, valued at \$21,169. Each finder's warrant entitles the holder to purchase one finder's unit at a price of \$0.33 per finder's unit for a two-year period from the closing date. Each finder's unit contains one common share and one common share purchase warrant, exercisable at \$0.40 for a period of two years from the closing date. The Company incurred additional share issuance costs of \$25,600 in connection with the closing.

- (iii) On September 5, 2017, the Company issued 2,611,714 Units in settlement of loans from unrelated parties at a deemed price of \$0.26 per common share. Included in profit or loss is a loss of \$91,409 related to the difference between market value of the shares on settlement and the value of the debt settled.
- (iv) On September 5, 2017, the Company issued 1,119,316 Units to settle future royalty payments on its convertible note of \$291,022. Included in profit or loss is a loss of \$39,176 related to the difference between market value of the shares on settlement and the value of the debt settled.
- (v) On October 25, 2017, The Company completed the second and final tranche of a non-brokered private placement by issuing 1,618,824 common share units (each, a "Unit") at a price of \$0.26 per unit for gross proceeds of \$420,894. Each Unit was comprised of one common share and one common share purchase warrant, each warrant being exercisable at a price of \$0.40 per share for a period of two years from issuance and are subject to accelerated expiration in the event that shares trade at a price greater than \$0.75 per share for ten consecutive trading days.

In connection with the offering, the Company paid a cash commission of \$11,846 and issued 45,560 non-transferrable unit finder's warrants. Each finder's warrant entitles the holder to purchase one finder's unit at a price of \$0.33 per finder's unit for a two-year period from the closing date. Each finder's unit contains one common share and one common share purchase warrant, exercisable at \$0.40 for a period of two years from the closing date.

- (vi) On October 25, 2017, the Company settled debts with three related party debtholders in the aggregate amount of \$79,500 by issuing 305,768 Units at price of \$0.26 per Unit.
- (vii) On November 2, 2017, the Company issued 272,727 common shares through the exercise of stock options for gross proceeds of \$30,000.
- (viii) On November 27, 2017, The Company completed a non-brokered private placement by issuing 6,486,921 common share units (each, a "Unit") at a price of \$0.26 per unit for gross proceeds of \$1,686,599. Each Unit was comprised of one common share and one common share purchase warrant, each warrant being exercisable at a price of \$0.40 per share for a period of two years from issuance and are subject to accelerated expiration in the event that shares trade at a price greater than \$0.75 per share for ten consecutive trading days.

In connection with the offering, the Company paid a cash commission of \$208 and issued 1,000 non-transferrable finder's warrants exercisable at \$0.40 for a period of two years.

- (ix) On November 30, 2017, the Company issued 400,000 common shares on the acquisition of the assets of AB Embedded valued at \$194,000.
- (x) On December 12, 2017, the Company issued 44,444 common shares in settlement of the dissenting shareholder liability at a deemed price of \$0.415 per common share. Included in profit or loss is a loss of \$3,333 related to the difference between market value of the shares on settlement and the value accrued at June 30, 2017.
- (xi) On January 5, 2018, the Company completed a rights offering by issuing an aggregate of 11,042,331 units (each, a "Unit") of the Company at a subscription price of \$0.26 per Unit, raising aggregate proceeds of \$2,871,006. Each Unit consisted of one common share and one listed transferable common share purchase warrant with each warrant being exercisable for a two-year period from the date of issuance of the Units at a price of \$0.35 per Share, if exercised prior to July 5, 2018, and at a price of \$0.40 per Share thereafter.

In connection with the offering, the Company paid a corporate finance fee of \$40,000, a cash commission of \$287,100, other share issuance costs of \$74,133 and granted 2,085,002 dealer's options to acquire additional Units at a price of \$0.26 for a period of two years valued using the Black-Scholes model at \$338,305.

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- (xii) On January 18, 2018, the Company issued 99,267 common shares at a price of \$0.27 per share for a total value of \$26,802 to settle debt of \$30,723.
- (xiii) On April 17, 2018 the Company issued 102,631 common shares at a price of \$0.18 for a total value of \$18,474 to settle debt of \$19,500 and 75,000 common shares at a price of \$0.18 for a total value of \$13,500 as a bonus payable to an employee.
- (xiv) On June 18, 2018, the Company issued 9,300,000 common shares at a price of \$0.145 for a total value of \$1,348,500 to the former shareholders of Astra on the 100% acquisition of Astra.
- (xv) On August 3, 2018, the Company purchased and returned to treasury 184,440 common shares at a price of US\$0.225 per share pursuant to a settlement agreement entered with the former dissenting shareholder.
- (xvi) On October 22, 2018, the Company issued 330,000 common shares in settlement of \$33,000 of accounts payable to a director of the Company and 214,285 common shares as fees on a loan payable.

Acquisition of Astra

On June 18, 2018, the Company completed its 100% acquisition of Astra, but issuing 9,300,000 common shares of the Company, valued at \$1,348,500, to the former shareholders of Astra. This acquisition is consistent with the Company's corporate growth strategy to build and acquire applications that assist in the collection, storage and analysis of large volumes of information for data centric companies. Astra is a technology company with multiple potential revenue streams including data center hosting, big data analytical services, and the manufacture of Industrial Internet of Things devices.

Astra represents three important elements of the CARL vision:

1. As the Company moves into smart city and smart building space active and long-term storage of data will grow exponentially according to all stakeholders to have a foot hold in this camp will be an important revenue stream.
2. Having a robust, resilient and scalable data center to host applications and client data in Canada is imperative for CARL's clients in Canada. Astra's facility has access to 1.2mW of power and existing enterprise clients. The Company's strategy to double the power availability will be matched against Letters of Intent which could include a living labs environment for the Company and the local municipality where the data center is located
3. With the acquisition of Astra, the Company has acquired a talented team that will take over all IoT manufacturing projects so CARL can focus accountability and resources towards streamlining the organization to deliver against its vision of developing and manufacturing vertically specific sensors such as submersible sensors for the water and oil industry and robust sensors for the solid waste vertical.

Acquisition of AB Embedded Assets

On November 30, 2017, the Company completed the acquisition of substantially all of the assets of AB Embedded Systems Ltd. ("**AB Embedded**"), an unrelated third party. The acquired combination of hardware designs, development tools and source code provide the Company with the opportunity to provide custom control systems developed in-house, offering synergies with the Company's existing BDaaS solutions.

In exchange for AB Embedded's assets, the Company issued 400,000 common shares valued at \$194,000. Concurrent with the acquisition, the Company entered into an independent contractor agreement with AB Embedded Systems Ltd., whereby AB Embedded will provide services to the Company for an indefinite term. The Company will issue an additional 400,000 common shares one year from closing, provided neither party has terminated the independent contractor agreement.

Acquisition of Carl PL

On March 16, 2018, the Company acquired 100% of the outstanding shares of Carl PL pursuant to a share sale agreement between CARL and Carl PL's shareholders. CARL acquired 100% of the outstanding shares of Carl PL by paying \$2,000.

Prior to the acquisition, Carl PL provided consulting services to the Company and has been involved in the development of an anomaly detection application for CARL's customers using the ETS NoSQL data collection and storage platform.

Cryptocurrency Service Agreement

On January 15, 2018, the Company entered into a service agreement with Connected Fintech Inc. ("Connected") whereby Connected will build and maintain a cryptocurrency mining facility on behalf of the Company. In exchange for the build-out services of the facility, the Company initially agreed to pay Connected as follows:

- pay \$250,000 (paid) and issue 500,000 common shares (not issued), due at the date of signing;
- issue 500,000 common shares upon the completion of development;
- issue 500,000 common shares six months from completion of development; and
- issue 500,000 common shares twelve months from completion of development.

The Company also agreed to pay Connected a royalty equal to 15% of monthly net revenues generated from the mining facility and a monthly retainer of \$4,000. On May 29, 2018, the Company entered into an amended agreement with Connected Fintech removing the requirements to issue the aggregate 2,000,000 common shares and pay the monthly retainer of \$4,000.

The cash paid of \$250,000 has been capitalized to property and equipment and is being depreciated using the declining balance method over the assets' useful lives. The cryptocurrency mining facility became available for use in April 2018 and as at June 30, 2018, the Company has recognized \$10,587 in revenues generated from digital currency verification services.

Convertible Debenture Financing

During the year ended June 30, 2016, the Company completed a senior secured collateralized convertible note ("Note") financing of up to \$2,000,000 to be received in tranches. All tranches of the Note bear interest of 10% (12% if in default) per annum, calculated and payable monthly, in advance. Each tranche matures within two years of issuance.

On June 30, 2016, the Company issued an initial tranche of \$500,000 incurring total transaction costs of \$432,075. The principal, at the option of the holder, will be convertible into common shares of the Company at a conversion price of \$0.45 per common share, subject to adjustment as per the agreement.

The Company paid a non-refundable commitment fee, included in total transaction costs, of \$50,000 and 375,000 shares. Total commitment fees of \$237,500, applicable to the full facility, were initially incurred and deferred. These fees are recognized as part of the initial carrying values of each tranche of debt issued based on the relative percentage of each tranche face value to the total facility value of \$2,000,000. At June 30, 2018 \$169,327 (2017 – \$131,813) was recorded in prepaid expenses. The Company shall issue 800,000 bonus shares on the closing date and on the date of conversion. 400,000 of these bonus shares were issued on the closing date and included in total transaction costs.

In the event the Company does not issue Notes in accordance with the terms of the agreement, the Company is subject to a break fee of \$100,000. At any time after issuance, the holder has the right to convert the principal amount of the Note at the above conversion price.

During the year ended June 30, 2017, the Company entered into an amendment allowing the conversion at the price of \$0.34 per share and of the initial \$500,000 tranche, \$405,000 was converted through the issuance of 1,191,176 common shares. The Company recognized \$458,012 to the statement of loss and comprehensive loss as a result of the conversion. In connection with the conversion, the Company was required to issue 400,000 common shares to the holder with a fair value of \$156,000 to settle amounts payable of \$136,000. The 400,000 common shares issued represent the balance of the bonus shares not issued during fiscal 2016.

During the year ended June 30, 2017, the Company initiated issuances of the Company's convertible notes and received \$390,000 in proceeds, of which \$87,189 was recognized to equity upon receipt.

During the year ended June 30, 2018, all future royalties, valued at \$291,022, were settled by issuance of 1,119,316 common shares. On June 29, 2018, the Company made repayments of \$475,000 and entered into an amending agreement with the issuer whereby the maturity date was extended to December 31, 2019 allowing the Company to purchase an additional \$1,000,000 subject to the same terms as the existing facility. As consideration for the extension, the Company issued 750,000 common share purchase warrants with an exercise price of \$0.25 and life of two years. The fair value of the warrants was estimated to be \$37,515 using the Black-Scholes option pricing model.

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On the repayment of \$475,000, the Company reclassified \$76,819 relating to the equity component of the settled notes from equity conversion feature on convertible note to reserves. As at June 30, 2018, the Company has not initiated any further issuances of the convertible notes.

Short-Term Loans

During the year ended June 30, 2018, the Company was advanced a \$609,140 in short term loans from unrelated parties. The loans were unsecured, non-interest bearing, and repayable upon demand. During the year ended, the Company issued 2,611,714 common shares at a deemed price of \$0.26 to settle short term debt in the aggregate of \$679,047 and repaid \$394,060 with cash.

During the year ended June 30, 2017, the Company issued 67,777, 406,887 and 435,111 common shares at \$0.52, \$0.52 and \$0.40, respectively, to settle short term debt in the aggregate of \$373,745. A loss on settlement of debt of \$47,128 (2017 - \$nil) was recorded in profit or loss.

During the year ended June 30, 2017, the Company was advanced \$377,900 in short term loans from unrelated parties. The loans were unsecured, non-interest bearing, and repayable upon demand. The full balance of the loans were settled during the year ended June 30, 2018.

Subsequent to June 30, 2018, the Company entered into a loan agreement with an arm's length party of \$300,000 maturing on September 18, 2018. In connection with the loan, the Company agreed to pay a transaction fee of \$15,000 and issue 214,285 common shares on maturity. An additional transaction fee of \$15,000 is payable on the loan amount at the rate of \$15,000 for any and every part of 59 days that the loan is outstanding after the maturity. As at the date of the MD&A, the Company had issued 214,285 common shares but the full amount of the loan and transaction fee remains payable. The Company later entered into a further agreement for a non-interest bearing \$100,000 loan that is repayable on demand.

Granting of Stock options

On January 22, 2015, the Company adopted an incentive stock option plan. Under the terms of this plan, the total number of share purchase options to be granted and outstanding may not exceed 10% of the total issued and outstanding common shares of the Company at the date of grant. Options may be granted with an exercise price equal to the market price of the common shares less any permitted discount on the grant date, vest according to privileges set at the time the options, have a minimum price of \$0.10 and are granted and expire no later than five years from the date of grant.

During and subsequent to the year ended June 30, 2018, the Company had the following stock option issuances:

- (i) On January 5, 2018, the Company granted 2,085,002 dealer's options in connection with the closing of a rights offering with a life of two years and exercise price of \$0.26, valued at \$338,305 using the Black-Scholes model.
- (ii) On April 24, 2018, the Company granted 100,000 stock options to an investor relations firm with a life of three years and an exercise price of \$0.19, valued at \$9,723 using the Black-Scholes model. The options vested 25% on grant and 25% each three months thereafter.
- (iii) On April 24, 2018, the Company granted 1,400,000 stock options to various directors, officers, employees, and consultants with a life of four years and an exercise price of \$0.19, valued at \$153,763 using the Black-Scholes model.
- (iv) On June 8, 2018, the Company granted 1,000,000 stock options to an officer and employee with a life of four years and exercise price of \$0.16, valued at \$106,139 using the Black-Scholes model.
- (v) On September 14, 2018, the Company cancelled the following options:
 - (i) 919,600 expiring January 12, 2021 with an exercise price of \$0.40;
 - (ii) 565,247 expiring August 24, 2021 with an exercise price of \$0.45; and
 - (iii) 684,939 expiring March 20, 2022 with an exercise price of \$0.36.
- (vi) On October 15, 2018, the Company granted 3,995,247 stock options to various directors, officers, employees, and consultants with a life of four years and an exercise price of \$0.14.

During the year ended June 30, 2018, the Company recognized an expense of \$395,782 related to stock options granted and vested.

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Summary of Quarterly Results

Key financial information for the quarters spanning the two most recent fiscal years is summarized as follows, reported in Canadian dollars:

	June 30, 2018	March 31, 2018	December 31, 2017	September 30, 2017
Revenue	\$ 365,499	\$ 280,808	\$ 250,076	\$ 362,529
Expenses	1,394,921	978,447	2,423,869	1,635,193
Net Loss	(630,573)	(697,639)	(2,173,793)	(1,272,664)
Basic and Diluted Loss per share	(0.01)	(0.01)	(0.04)	(0.03)
Assets	4,385,604	2,925,440	1,681,410	1,435,275
Liabilities	987,015	798,921	1,898,047	1,125,277
Shareholder Equity (Deficiency)	3,398,589	2,126,519	(216,637)	309,998

	June 30, 2017	March 31, 2017	December 31, 2016	September 30, 2016
Revenue	\$ 379,370	\$ 239,397	\$ 285,603	\$ 286,029
Expenses	1,642,587	1,100,086	1,696,275	1,368,215
Net Loss	(1,293,221)	(830,689)	(1,410,672)	(1,082,182)
Basic and Diluted Loss per share	(0.03)	(0.02)	(0.03)	(0.03)
Assets	1,423,721	1,738,034	2,288,204	2,196,695
Liabilities	1,645,625	1,317,128	1,176,756	1,438,013
Shareholder Equity (Deficiency)	(221,904)	420,906	1,111,448	757,682

Fourth Quarter

Revenue in the fourth quarter of the year ended June 30, 2018 of \$358,499 did not change materially from the comparable quarter ended June 30, 2017 at \$379,370. Higher revenues for the quarters ended June 30, 2018, September 30, 2017, and June 30, 2017 as compared to other quarters was a result of the timing of completion of various custom programming service contracts, which occur on a periodic basis. Expenses for the fourth quarter ended June 30, 2018 of \$1,393,741 were higher than the comparable period and most quarters for the year, excluding December 31, 2017 which had a significant investor relations fees, primarily as a result of costs bore in the acquisition of Astra. Net loss for the quarter ended June 30, 2018 decreased as compared to other quarters primarily as a result of the recognition of a deferred income tax recovery resulting from the acquisition of Astra.

Discussion of Year End Operations

Revenue

For the year ended June 30, 2018, the Company generated \$1,258,912 in revenues (2017 - \$1,190,399) of which \$1,111,681 (2017 - \$1,139,814) related to revenue generated by FlowWorks, 96,600 (2017 - \$48,300) related to revenue generated by ETS, \$40,044 related to revenue generated by Astra for data hosting services, and \$10,587 generated from the provision of digital currency verification services. Revenue from FlowWorks is comprised of service fees from its web-based application used for data analysis in addition to set-up fees and custom programming service contracts. The increase in revenues is primarily a result of additional revenue generated from ETS, along with data hosting services which commenced with the acquisition of Astra on June 18, 2018.

Operating Expenses and Other Items

Operating expenses and other items with significant variances and balances include:

Amortization

Amortization for the year ended June 30, 2018 was \$338,160 (2017 – \$267,539). During the year ended June 30, 2018, on the business combinations of AB Embedded and Astra, the Company acquired five new finite life intangible assets which are to be amortized over periods of three or four years. The amortization expense for the year ended June 30, 2018 captures the new amortization for intangibles from acquisition plus amortization of previously acquired FlowWorks assets. Further, during the year ended June 30, 2018, the Company's previously identified software in development became available for use and the Company started amortizing it from January 1, 2018.

Computer Hosting Costs

Computer hosting costs for the year ended June 30, 2018 were \$286,403 (2017 – \$131,947). The additional hosting costs were incurred as a result of running the Company's new platform in tandem with its former and management does not expect these to persist in the future.

Consulting fees

Consulting fees for the year ended June 30, 2018 were \$824,172 (2017 – \$667,677). Consulting fees are primarily used for contracts with developers and for management and movement between the two years is considered reasonable. The consulting fees for the year ended June 30, 2018 also included a signing bonus of \$60,000 paid to a contractor, which is not expected to be recurring and the accrual of a commitment to issue shares of \$113,211 relating to the obligation to issue 400,000 common shares of the Company on the one year anniversary of the business combination with AB Embedded.

Depreciation

Depreciation for the year ended June 30, 2018 was \$53,271 (2017 – \$nil). During the year current year ended June 30, 2018, the Company acquired tangible assets through the business combinations of AB Embedded and Astra and paid \$250,000 for the acquisition of processors to be used for digital currency verification services for which the Company started recognizing depreciation.

Interest and Penalties

Interest and penalties for the year ended June 30, 2018 were \$85,508 (2017 – \$134,975). In the previous year, the Company was assessed some penalties as a result of late taxation filings and payments, which did not persist into the current year. The balance of the account relates to interest payments on the Company's convertible debenture which remained consistent with the prior year.

Investor Relations

Investor relations expense for the year ended June 30, 2018 was \$1,973,261 (2017 – \$412,554). During November and December 2017, the Company entered into multiple investor relations contracts in advance of its rights offering for a large-scale short-term investor relations campaign. The Company does not expect these costs to persist and is focusing on reducing its investor relations expenditures.

Occupancy

Occupancy costs for the year ended June 30, 2018 were \$158,874 (2017 – \$96,024). The Company entered into a new office space lease late in the year ended June 30, 2017 which explain most of the increase. During the year ended June 30, 2018, the Company acquired Astra and Carl PL and is now responsible for occupancy costs in Trail, BC and Gdansk, Poland and therefore expects occupancy costs to increase.

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Office and miscellaneous

Office and miscellaneous costs for the year ended June 30, 2018 were \$185,581 (2017 – \$173,473). The Company has experienced growth during the year with the business combinations of AB Embedded, Carl PL, and Astra, and therefore an increase in office and miscellaneous costs is expected. Concurrently, management has focused on cost reduction where possible and accordingly, this expense has remained in line with the comparable year.

Professional fees

Professional fees for the year ended June 30, 2018 were \$301,041 (2017 – \$367,400). Professional fees include audit and accounting fees and legal fees. In the comparable year, the Company had a high level of legal fees in defense of a lawsuit that was settled in June 2017. During the current year, the Company incurred legal expenditures for advice with respect to acquisition targets and general corporate matters, but saw an overall decrease as expected.

Share-based payments

Share-based payments for the year ended June 30, 2018 were \$409,282 (2017 – \$242,774). The expense relates primarily to stock options granted and vested during the year and saw an increase over the comparable year as a result of two option grants that vested immediately and were therefore expensed in the same year.

Salaries and wages

Salaries and wages for the year ended June 30, 2018 were \$931,807 (2017 – \$1,295,328). During the year ended June 30, 2017, the Company had a higher level of staff involved in FlowWorks, which was reduced at the outset of the current year ended June 30, 2018, primarily explaining the reduction of salaries and wages in the current year.

Travel

Travel expenses for the year ended June 30, 2018 were \$180,783 (2017 – \$96,397). During the year ended June 30, 2018, the Company saw a large increase in travel required for marketing and investor relations, the research and due diligence on acquisition targets, and for development with the Company's subsidiary in Poland.

Financing Costs

Financing costs for the year ended June 30, 2018 were \$292,028 (2017 – \$759,349). Financing costs in the current year related exclusively to royalties paid and fully satisfied on the Company's convertible debenture, which was primarily settled through the issuance of 1,119,316 common shares of the Company valued at \$291,022. Prior year financing costs include costs bore in relation to the convertible debenture and were not expected to continue into the current year.

Loss on conversion of convertible note

Loss on conversion of convertible note for the year ended June 30, 2018 was \$nil (2017 – \$458,012). During the year ended June 30, 2018, the Company settled \$475,000 of its remaining convertible debenture balance of \$485,000 at point where it had been fully accreted. During the comparable period, the Company converted a portion of its convertible debenture early, which resulted in a loss. No similar loss is expected to persist.

Settlement of contingency

Settlement of contingency for the year ended June 30, 2018 was \$nil (2017 – \$350,842). During the prior year, the Company settled a lawsuit by agreeing to issue a total of 933,332 common shares and paying US\$111,000. The full valuation of the settlement had been fully accrued as at June 30, 2017. During the year ended June 30, 2018, the Company made the full payment and share issuances.

Operating Activities and Plans

Company Structure

After the successful acquisition of Astra Smart System, the Company has been divided into 3 complimentary business units based in Trail, Burnaby, and Gdansk Poland;

- 1) Hardware R&D will be based in Trail, BC where the Company is actively pursuing grants to complete specialty components that will help secure data services contracts with existing and new customers.
 - o The Trail facility has the perfect production and lab space to test and produce products that are desperately needed in building IIoT and smart city infrastructure.
 - o The geographic location also provides the Company with access to funding through several regional economic diversity organizations that provide grants for the work CARL does.
 - o Adding hardware and telemetry solutions to the company's product offering provides true end to end solutions for the Company's clients.
- 2) Data Science is based in Gdansk, Poland. Gdansk has a large pool of extremely well-educated engineers and statisticians who build and release the "advance" features in the applications that the company provides to its clients.
 - o The group has successfully completed a key piece of infrastructure that will allow very advanced statistical modelling tools to be used not only in the applications that CARL produces, but also can be "consumed" through a web service. This allows the features to be used in other applications and the for the Company to charge for service on a "transaction" basis. Since this model does not include user interface (UI) development, it is extremely profitable.
 - o Because AI/machine learning and other statistical services are now "separated" from application development, The Gdansk group can operate without dependency on the Software as a Solution ("SaaS") based application developers decreasing the time it takes to get advanced features to market.
- 3) Application Development is based in the Burnaby head office. In Burnaby the Company has a talented group of software engineers who continue to work on its core SaaS based application, FlowWorks.
 - o The application has been significantly upgraded to allow inclusion of governments/companies with extremely high volumes of data to be accommodated.
 - o Nearly unlimited cloud-based scalability means there are no ceilings for the size and number of clients that the Company targets.
 - o The Company's developers have ensured that the platform can accommodate all types of time series data from virtually any device or data source. From images to stream flow to slope stability, FlowWorks can handle all of it.
 - o The updates allow the company to pursue a variety of clients from different industry verticals.

Moving Forward

CARL is actively targeting clients in many industrial verticals. As IIoT explodes with new devices producing data, CARL is ready to be the "go to" platform for data storage and analysis. The Company anticipates enormous growth in the "Smart Cities" area. With aging infrastructure, cities, mines, and utilities are scrambling to get a better idea of where upgrades and improvements are required. CARL's platform provides answers in real time to decision makers who need to make decisions on capital projects. The Company's predictive analytics features can help identify events that may significantly impact valuable assets. Including hardware into the product mix, CARL is ready to deliver cost effective end to end solutions to a massive emerging market.

Liquidity and Capital Resources

During the year ended June 30, 2018 the Company's operating activities required \$4,288,929 (2017 -\$1,870,581) in cash stemming primarily from an increased investor relations program commencing in November 2017 and management's efforts to pay down accounts payable and accrued liabilities from the prior year.

The company's cash as at June 30, 2018 was \$247,795 (2017 - \$40,606) and the Company's working capital was \$146,199 (2017 - working capital deficit of \$801,163).

CARL DATA SOLUTIONS INC.
MANAGEMENT'S DISCUSSION & ANALYSIS
FOR THE YEAR ENDED JUNE 30, 2018

Financing Activities

During the year ended June 30, 2018, the Company generated \$4,739,230 from financing activities (2017 - \$1,778,610). A total of \$4,999,150 (2017 – 1,081,360) was generated from the issuance of shares by way of private placements, rights offering, and the exercises of stock options and warrants. During the year ended June 30, 2018 the Company made payments of \$475,000 on its convertible debt compared to \$390,000 drawn on the facility in the comparable year. Net of repayments, the Company received short-term loans of \$215,080 during the year ended June 30, 2018 (2017 – \$306,800).

Investing Activities

During the year ended June 30, 2018, the Company paid \$250,000 for the acquisition of a cryptocurrency mining facility, and on the acquisitions of Carl PL and Astra received cash of \$169 for net outflows of \$249,831 from investing activities.

The Company did not expend cash on investing activities during the year ended June 30, 2017.

Capital Structure

As at the date of this MD&A, the Company has 76,235,174 common shares, 26,200,834 warrants, and 8,943,886 stock options outstanding.

Financial Instruments and Risk Management

The capital managed by the Company includes the components of shareholders' equity as described in the consolidated statements of shareholders' equity. The Company is not subject to externally imposed capital requirements.

The Company's objectives of capital management are to create long-term value and economic returns for its shareholders. It does this by seeking to maximize the availability of funds for growth and development of its projects, and to support the working capital required to maintain its ability to continue as a going concern. The Company manages its capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of its assets, seeking to limit shareholder dilution and optimize its cost of capital while maintaining an acceptable level of risk. To maintain or adjust its capital structure, the Company considers all sources of finance reasonably available to it, including but not limited to issuance of new capital, issuance of new debt and the sale of assets in whole or in part. The Company's overall strategy with respect to management of capital at June 30, 2018 remains fundamentally unchanged from the year ended June 30, 2017.

Market Risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the fair value or future cash flows of a financial instrument. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return. At June 30, 2018 and 2017 the Company was not subject to significant market risk, except as noted below.

Foreign exchange risk

As at June 30, 2018 the Canadian dollar equivalent carrying values of the financial assets and liabilities denominated in foreign balances are as follows:

	US Dollars		Polish Zloty	
	June 30, 2018	June 30, 2017	June 30, 2018	June 30, 2017
Financial Assets				
Cash	\$ 43,443	\$ 11,720	\$ 65,854	\$ -
Accounts receivable	178,883	210,174	-	-
Financial Liabilities				
Accounts payable and accrued liabilities	\$ 87,806	\$ 199,166	\$ 51,772	\$ -

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The Company's subsidiary, FlowWorks, operates in the United States which, from the perspective of the Company, creates currency risk associated with those operations. FlowWorks had revenue of \$1,111,681 (2017 - \$1,139,814) (Canadian dollar equivalent). A 10% change in the foreign exchange rate would result in a \$111,000 (2017 - \$73,000) (Canadian dollar equivalent) change in profit or loss.

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Company's interest rate risk mainly arises from changes in the interest rates on cash. Cash generates interest based on market interest rates. At June 30, 2018 and 2017, the Company was subject to interest rate risk with respect to its loans payable, some of which bear interest at a fixed rate and others are non-interest bearing, and convertible note, which bears interest at a fixed rate.

Credit Risk

Credit risk arises from the non-performance by counterparties of contractual financial obligations. The Company's maximum exposure to credit risk at the reporting date is the carrying value of cash and accounts receivables. The Company holds cash at a major Canadian chartered bank in a chequing account, a Washington State, USA bank, and a Polish bank.

Of the \$210,174 in accounts receivable, \$61,651 has been outstanding for greater than 90 days for which the Company has recognized an allowance for doubtful accounts of \$22,373. The Company's credit risk for accounts receivable is concentrated, as 43% of its accounts receivable owing is from three customers (2017 - 41% from 3 customers), with more than 10% owing from each individual customer.

Liquidity Risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset. The Company manages liquidity risk by maintaining adequate cash balances. If necessary, the Company may raise funds through the issuance of debt, equity or sale of non-core assets. The Company ensures that there is sufficient capital to meet its obligations by continuously monitoring and reviewing actual and forecasted cash flows and matching the maturity profile of financial assets to development, capital and operating needs. The Company's accounts payable are due within 30 to 60 days. The maturities of loans payable and convertible note are disclosed in notes 14 and 15, respectively. The Company has limited working capital at June 30, 2018 and will need to raise further financing to meet its financial obligations.

Off-Balance Sheet Arrangements

The Company has no off-balance sheet arrangements.

Related Party Transactions

The Company has entered into an executive consulting agreement with a company controlled by the President, CEO and director of the Company. Under the terms of the agreement, the Company will pay the company a total of \$11,667 per month.

During the year ended June 30, 2018, the Company paid or accrued, to key management personnel and their related companies:

	Consulting Fees	Share-based payments	Total
Chief Executive Officer	\$ 134,166	\$ 80,614	\$ 214,780
Chief Financial Officer	108,000	10,983	118,983
Non-executive Directors	81,500	69,317	150,817
Total	\$ 323,666	\$ 160,914	\$ 484,580

CARL DATA SOLUTIONS INC.
MANAGEMENT'S DISCUSSION & ANALYSIS
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During the year ended June 30, 2017, the Company paid or accrued, to key management personnel and their related companies:

	Consulting Fees	Share-based payments	Total
Chief Executive Officer ⁽¹⁾	\$ 130,000	\$ 151,761	\$ 281,761
Former Chief Financial Officer ⁽²⁾	115,700	116,633	232,333
Non-executive Directors	19,500	11,361	30,861
Total	\$ 265,200	\$ 279,755	\$ 544,955

(1) Included in share-based payments of \$151,761 are guarantee fees of \$148,571 earned for guaranteeing the convertible note liabilities of the Company included in financing costs

(2) Included in share-based payments of \$116,633 are guarantee fees of \$68,571 earned for guaranteeing the convertible note liabilities of the Company included in financing costs.

During the year ended June 30, 2018, the Company issued 305,768 (2017 – 2,282,282) common shares to related parties to settle debt of \$79,500 (2017 – \$931,597).

Included in accounts payable and accrued liabilities is \$70,529 (2017 - \$164,901) due to officers and directors.

On June 9, 2014, ETS signed a referral services agreement with RA Revenue Automation Inc. (“RA”) whereby RA agreed to use ETS as its exclusive referral marketing application and include the concept in all relevant business development pitches to customers. A company controlled by the Company’s CEO owns 10% of RA. Revenue of \$96,600 (2017 - \$48,300) and \$nil (2017 - \$6,053) in bad debts recorded on the statement of comprehensive loss from RA for the year ended June 30, 2018. As at June 30, 2018, \$42,263 (2017 - \$8,453) was owed from RA.

Kerr Wood Leidal Associates Ltd. (“KWL”)

KWL, a consulting engineering company, founded and created FlowWorks, and is related to a Director of the Company. During the year ended June 30, 2018, the Company earned sales revenue from KWL of \$170,210 (2017 - \$117,300) and incurred expenses from KWL of \$16,061 (2017 - \$75,908). Included in accounts receivable as at June 30, 2018 is a balance owing from KWL of \$88,862 (2017 - \$1,449). The Company owed accounts payable of \$nil (2017 - \$18,657) to KWL as at June 30, 2018.

Proposed Transactions

The Company has no specific proposed transactions.

Subsequent Events

Subsequent to June 30, 2018, the Company:

- a) entered into a loan agreement with an arm’s length party of \$300,000 maturing on September 18, 2018. In connection with the loan, the Company agreed to pay a transaction fee of \$15,000 and issue 214,285 common shares on maturity. An additional transaction fee of \$15,000 is payable on the loan amount at the rate of \$15,000 for any and every part of 59 days that the loan is outstanding after the maturity. As at the date of the MD&A, the Company had issued the 214,285 common shares, but the full amount of the loan and transaction fee remains payable;
- b) purchased and returned to treasury 184,440 common shares at a price of US\$0.225 per share pursuant to a settlement agreement entered with the former dissenting shareholder;
- c) entered into a loan agreement with an arm’s length party of \$100,000. The loan is non-interest bearing and repayable on demand; and
- d) granted 3,995,247 stock options with an exercise price of \$0.14 and a life of four years to various employees, consultants, officers, and directors.
- e) issued 330,000 common shares to a director of the Company in settlement of accounts payable and accrued liabilities.

Critical Accounting Estimates

The effect of a change in an accounting estimate is recognized prospectively by including it in profit or loss in the year of the change, if the change affects that year only, or in the year of the change and future years, if the change affects both.

Valuation of acquired assets

The Company has made estimates with respect to the acquisition date fair values of the identifiable assets and liabilities of FlowWorks, Astra, Carl PL, and AB Embedded. The valuation of intangible assets requires management to use valuation techniques to assess the fair values of assets and liabilities acquired at acquisition date. The Company used its judgment to select methods and makes assumptions that reflected market conditions as at the acquisition dates.

Income tax

The determination of income tax is inherently complex and requires making certain estimates and assumptions about future events. While income tax filings are subject to audits and reassessments, the Company has adequately provided for all income tax obligations. However, changes in facts and circumstances as a result of income tax audits, reassessments, jurisprudence and any new legislation may result in an increase or decrease in the Company's provision for income taxes.

Equity-settled transactions

The Company measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Equity-settled transactions with non-employees are recorded at the fair value of the service provided, where this is readily determinable. In other instances, they are recorded at the fair value of the equity instruments issued. Estimating fair value for share-based payment transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the share-based award, volatility and dividend yield and making assumptions about them.

Future Changes in Accounting Policies

At the date of this MD&A, the IASB and IFRIC have issued the following new and revised standards, amendments and interpretations which are not yet effective during the period ended June 30, 2018:

IFRS 9 Financial Instruments (revised)

IFRS 9, Financial Instruments is part of the IASB's wider project to replace IAS 39 Financial Instruments: Recognition and Measurement. IFRS 9 retains but simplifies the mixed measurement model and establishes two primary measurement categories for financial assets: amortized cost and fair value. The basis of classification depends on the entity's business model and the contractual cash flow characteristics of the financial asset. The standard is effective for annual periods beginning on or after January 1, 2018. The Company anticipates that application of this standard will not have a material impact on the results and financial position of the Company.

IFRS 15 Revenue from Contracts with Customers

IFRS 15 is a new standard to establish principles for reporting the nature, amount, timing, and uncertainty of revenue and cash flows arising from an entity's contracts with customers. It provides a single model in order to depict the transfer of promised goods or services to customers. IFRS 15 supersedes IAS 11, Construction Contracts, IAS 18, Revenue, IFRIC 13, Customer Loyalty Programs, IFRIC 15, Agreements for the Construction of Real Estate, IFRIC 18, Transfers of Assets from Customers, and SIC-31, Revenue – Barter Transactions involving Advertising Service. IFRS 15 is effective for annual periods beginning on or after January 1, 2018. The Company anticipates that application of this standard will not have a material impact on the results and financial position of the Company.

IFRS 16 Leases

IFRS 16 replaces IAS 17 – Leases and requires lessees to account for leases on the statement of financial position by recognizing a right to use asset and lease liability. The standard is effective for annual reports beginning on or after January 1, 2019, with earlier adoption permitted. The Company is currently evaluating the impact of the application of this standard.

Risk Factors

The following are major risk factors management has identified which relate to the Company's business activities. Such risk factors could materially affect the Company's future financial results and could cause events to differ materially from those described in forward-looking statements relating to the Company. Though the following are major risk factors identified by management, they do not comprise a definitive list of all risk factors related to the Company's business and operations. Other specific risk factors are discussed elsewhere in this MD&A.

Capitalization and Commercial Viability

The Company will require additional funds to continue operations. The Company has limited financial resources, and there is no assurance that additional funding will be available to the Company to carry out the completion of all proposed activities. There can be no assurance that the Company will be able to obtain adequate financing in the future or that the terms of such financing will be favourable. Failure to obtain such additional financing could result in the curtailment of operations, liquidation of assets, seeking of additional capital on less favourable terms and/or other remedial measures.

History of Operating Losses

The Company has an accumulated deficit since its incorporation through June 30, 2018 of \$13,689,607. The deficit may increase in the near term, as the Company continues its product development and establishes sales channels for its new products.

General Economic Conditions

The Company currently operates in Canada, the United States, and Poland and, like all global businesses, it has been subject to the impact of the current global credit and financial crisis on consumers in its areas of operations and the discretionary spending available to them. General economic conditions have resulted in reduced consumer and government spending and have impacted the Company's profitability. Should these conditions continue to prevail, there will be further pressure on the Company's profitability.

Key Employees

The success of the Company, like all marketing and software companies, is largely dependent on the performance of its key employees and directors. The failure to retain key employees and directors and to attract and retain additional key employees with necessary skills could have a material adverse impact upon the Company's growth and profitability. Competition for highly skilled management, technical and other employees is intense. There can be no assurance that the Company will be successful in attracting and retaining such personnel and the departure of any of the members of the Company's executive team or key directors could have a material adverse effect on the Company's business, results of operations and financial condition.

New Market Risk

The Company is operating in a large market but is providing a previously unavailable service. The Company faces uncertainty as to the degree of new and continuing market acceptance of its products. The performance of the Company also depends on the performance on agencies that the Company partners with along with their end customers.

Customer Risks

The Company is dependent on proper pricing of products, reporting of successful results of referral campaigns and timely collection of customer accounts. The Company is also dependent on its ability to ensure that their customers operate within the terms of its service agreements.

Intellectual Property Risks

The Company has taken steps to protect its proprietary technology. The Company relies on a combination of trademark, trade secrets, laws and other intellectual property protection methods to protect its proprietary technology. These steps may not completely protect the Company's proprietary technology, nor give it a competitive edge. Others may independently develop substantially equivalent technology or gain access to our trade secrets. If the Company is unable to protect its intellectual property, the business over time could be materially affected. The Company will pursue all avenues available to it, if necessary, to enforce its patents, and to protect its trademarks and other intellectual property rights owned by the Company.

Reliance on Information Systems and Technology

The Company's business relies upon information technology systems to service customers at the point of sale. Its information technology systems may be vulnerable to unauthorized access, computer viruses, system failures, other malicious acts or acts of nature. Should a significant disruption to its information technology occur, the Company's earnings could be adversely affected through loss of revenue and the costs to rectify the disruption. The Company is in an industry with many competitors that lay claim to intellectual property. The Company may receive notice from a third party asserting the Company has infringed on their intellectual property rights. As a result of such claims the Company's earnings could be adversely affected by costly litigation, product injunctions or consumption of management attention. The Company may also be required to expend significant capital and resources to protect against the threat of security, encryption and authentication technology breaches or to alleviate problems caused by such breaches.

Reliance on Third Party Licenses

The Company relies on certain software that it licenses from third parties, including a software program that is integrated with internally developed software and used in the Company's products to perform key functions. There can be no assurance that these third-party licenses will continue to be available to the Company on commercially reasonable terms. The loss of, or inability to maintain, any of these licenses, could result in delays or reductions in product and service deployment until equivalent software can be developed, identified, licensed and integrated, which could materially adversely affect the Company's business, results of operations and financial condition.

Risk Associated with International Operations

Management of the Company believes that its continued growth and profitability will require expansion of its sales further in the United States and into other foreign markets. This expansion will require significant management attention and financial resources and could adversely affect the Company's operating margins. In order to increase international sales in subsequent periods, the Company may establish additional foreign operations, incur substantial infrastructure costs, hire additional personnel and recruit international resellers. To the extent that the Company is unable to expand international sales in a timely and cost-effective manner, the Company's business, results of operations and financial condition could be materially adversely affected. In addition, even with the possible recruitment of additional personnel and international partners, there can be no assurance that the Company will be successful in maintaining or increasing international market demand for the Company's applications and services. The risk associated with currency fluctuations are comprised mainly of the Company's United States denominated sales, component purchases and other expenses. In the future, it is expected that a portion of revenues may be realized in other foreign currencies as a result of international sales. Fluctuations in the exchange rate between the Canadian dollar and other currencies, particularly the United States dollar, may have a material adverse effect on the Company's results of operations, financial condition and any business prospects. The Company may use hedges to mitigate the risk of foreign currency exposure.

Expansion

The success of the Company's continued expansion will depend upon many factors, including the ability of the Company to maintain acceptable attrition rates and control of operating costs. There can be no assurance that the Company will be able to grow or achieve its continued expansion. Such risks, if they materialize, could have a material adverse effect on the Company's business, financial condition, liquidity and results of operations.

Available Workforce

The Company's continued success will depend on the performance and continued service of the Company's employees. The Company relies on the ability to attract new software engineers and developers, research and development staff, production personnel and key sales and marketing employees. The Company will continue to develop our employees and search for key new hires, however there is no assurance that the Company will be able to retain existing personnel or attract, hire and retain additional qualified personnel.