PHOTON CONTROL

Photon Control Inc.

Management's Discussion and Analysis

For the three and nine months ended September 30, 2019

(in Canadian dollars, amounts in thousands except number of shares and per share amounts)

DATED November 6, 2019

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PHOTON CONTROL

MANAGEMENT'S DISCUSSION AND ANALYSIS

For the three and nine months ended September 30, 2019

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MANAGEMENT'S DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis ("MD&A") provides information for the three and nine months ended September 30, 2019, and up to and including November 6, 2019. This MD&A is prepared in accordance with National Instrument 51-102F1, and should be read in conjunction with Photon Control Inc.'s (the "Company" or "Photon Control") unaudited condensed interim consolidated financial statements and accompanying notes for the three and nine months ended September 30, 2019, and the consolidated financial statements and accompanying notes for the years ended December 31, 2018 and 2017. These documents, along with additional information about the Company, including the Annual Information Form ("AIF"), are available at www.photoncontrol.com and www.sedar.com.

This MD&A contains certain forward-looking statements and assumptions. See "Cautionary Note Regarding Forward Looking Statements" section of this MD&A for more information.

The financial data contained in this report and in the unaudited condensed interim consolidated financial statements and accompanying notes of the Company for the three and nine months ended September 30, 2019 have been prepared in accordance with International Financial Reporting Standards ("IFRS") and are stated in Canadian dollars, unless otherwise noted.

In addition to the results reported in accordance with IFRS, the Company uses various non-GAAP financial measures, which are not recognized under IFRS, as supplemental indicators of the Company's operating performance and financial position. These non-GAAP financial measures are provided to enhance the user's understanding of the Company's historical and current financial performance and its prospects for the future. Management believes that these measures provide useful information in that they exclude amounts that are not indicative of the Company's core operating results and ongoing operations and provide a more consistent basis for comparison between quarters and years. Details of such non-GAAP financial measures and how they are derived are provided in conjunction with the discussion of the financial information reported.

Since non-GAAP financial measures do not have any standardized meanings prescribed by IFRS, other companies may calculate these non-IFRS measures differently and our non-GAAP financial measures may not be comparable to similar titled measures of other companies. Accordingly, investors are cautioned not to place undue reliance on them and are also urged to read all IFRS accounting disclosures presented in the unaudited condensed interim consolidated financial statements and accompanying notes for the three and nine months ended September 30, 2019, and the consolidated financial statements and the accompanying notes for years ended December 31, 2018 and 2017.

OVERVIEW

Photon Control designs, manufactures, and distributes a wide range of optical sensors and systems to measure temperature and position. These products are used by the world's largest Wafer Fabrication Equipment ("WFE") manufacturers and end users in the semiconductor and solid-state industries. Photon Control's high quality products provide industry leading accuracy, speed and quality in the most extreme conditions and are backed by a team of experts providing a variety of on-site and remote services including custom design, installation, training and support. The Company is headquartered in an ISO 9001:2015 manufacturing facility in Vancouver, British Columbia, Canada, has a sales and engineering office in San Jose, California, and a sales distribution network across Asia. Photon Control is listed on the Toronto Stock Exchange (the "TSX"), trading under the symbol "PHO".

PRODUCTS AND INDUSTRIES

Semiconductor Industry: Temperature and Position Sensors

The semiconductor capital equipment industry offers several significant and growing applications for our technology and is the primary source of revenue and growth for our business. The Company designs and produces precision temperature and position sensors used by semiconductor WFE manufacturers in our ISO-certified manufacturing facility. The manufacturing of silicon wafers for semiconductors involves a multitude of complex processes; monitoring and maintaining the correct wafer position and wafer temperature during these processes is critical to achieving the product yield and productivity required for high-volume manufacturing. The measurement accuracies required of such sensors are becoming more challenging as semiconductor devices scale to atomic level dimensions and become more three-dimensional ("3D") in nature. Furthermore, these sensors must maintain their accuracy in harsh environments encountered in critical semiconductor equipment, such as the strong radio frequency electromagnetic fields encountered in plasma etch and plasma-assisted deposition systems. Photon Control's fiber optic sensors are immune to radio frequency interference and are thus able to deliver the high accuracies required for state-of-the-art process control.

The need for scaling semiconductor devices to atomic level dimensions has also created a need for more measurement points inside the chamber. Temperature and position anomalies have a greater impact on yield at these atomic level dimensions and must be measured and controlled more precisely, which increases the value and use of fiber optic sensors. In addition, as semiconductor equipment has gone from 28 nm node to sub-10 nm nodes, the number of measurement points and etch steps has increased more than four-fold. Similarly, the proliferation of 3D and advanced logic chip designs have become more common and comprise an increasingly significant percentage of total chips manufactured. These factors have driven and are expected to continue to drive demand for the Company's products.

SALES, MARKETING AND DISTRIBUTION

Photon Control sells its products globally with sales to original equipment manufacturers ("OEMs") primarily in the United States who in turn sell their products to semiconductor manufacturers in the United States, Asia and Europe. We also sell through a network of distributors in Asia who sells our products to OEMs in their home markets.

MARKET LANDSCAPE

In addition to the increasing number of measurement points, there are several other market and technology trends that we expect will contribute to the fiber optic sensor market in semiconductor manufacturing:

- Semiconductors have revolutionized all aspects of our economy and lives – among the technologies fueled by semiconductors today and in the future are smartphones, 5G mobile, the cloud, autonomous driving, and artificial intelligence. As a critical building block of these technologies, semiconductors will continue to enable innovation and transform industries, and hence, chip makers are expected to increase production to meet this growing market.
- The need for more storage capacity and computing power also continues to drive the scaling of semiconductor devices to smaller dimensions and to be more "3D". These advanced technologies are more complex which require more process steps, equipment and sensors.
- The scaling of semiconductor devices requires patterning of semiconductor materials at atomic level dimensions. This is achieved by a process called "multi-patterning" which requires extra plasma etch and deposition steps compared to standard patterning, and these equipment segments have been outpacing the overall WFE market. The Company's fiber optic sensors are used mostly in plasma etch and deposition equipment.
- The semiconductor capital equipment market has historically experienced certain cycles of growth and contraction due to variations in product supply and demand, changing customer requirements and rapid technological change.

SELECTED FINANCIAL INFORMATION

The following table highlights key financial information for the three and nine months ended September 30, 2019 as compared to the prior comparable periods:

	Three months ended				Nine months ended			
	September 30,		Variance		September 30,		Variance	
	2019	2018	($)	(%)	2019	2018	($)	(%)
Revenue	$ 8,742	$ 10,052	$ (1,310)	-13%	$ 23,880	$ 38,471	$ (14,591)	-38%
Cost of sales	3,951	4,859	(908)	-19%	10,968	17,111	(6,143)	-36%
Gross profit	4,791	5,193	(402)	-8%	12,912	21,360	(8,448)	-40%
Gross profit %	*54.8%*	*51.7%*			*54.1%*	*55.5%*		
Operating expenses								
General and administrative	1,426	1,361	65	5%	5,122	5,316	(194)	-4%
Engineering	1,289	966	323	33%	3,605	2,708	897	33%
Sales and marketing	355	693	(338)	-49%	1,486	1,944	(458)	-24%
Total operating expenses	3,070	3,020	50	2%	10,213	9,968	245	2%
Operating income	1,721	2,173	(452)	-21%	2,699	11,392	(8,693)	-76%
Finance income	133	142	(9)	-6%	502	286	216	76%
Accretion expense on contingent consideration	(127)	(187)	60	-32%	(404)	(570)	166	-29%
Change in fair value of contingent consideration	50	112	(62)	-55%	482	(790)	1,272	-161%
Gain on sale of assets	-	-	-	0%	-	166	(166)	-100%
Foreign exchange gain (loss)	272	(551)	823	-149%	(786)	1,167	(1,953)	-167%
	328	(484)	812	-168%	(206)	259	(465)	-180%
Net income before taxes	2,049	1,689	360	21%	2,493	11,651	(9,158)	-79%
Income taxes	562	440	122	28%	827	3,667	(2,840)	-77%
Net income	1,487	1,249	238	19%	1,666	7,984	(6,318)	-79%
Other comprehensive (loss) gain on foreign exchange translation of subsidiary	(12)	24	(36)	-150%	10	(9)	19	-211%
Total comprehensive income	$ 1,475	$ 1,273	$ 202	16%	$ 1,676	$ 7,975	$ (6,299)	-79%
Basic earnings per share	$ 0.01	$ 0.01	$ 0.00	0%	$ 0.02	$ 0.07	$ (0.05)	-71%
Diluted earnings per share	$ 0.01	$ 0.01	$ 0.00	0%	$ 0.02	$ 0.07	$ (0.05)	-71%

Operating income is a non-GAAP measure and is therefore not universally defined. The Company defines operating income as earnings before finance income; accretion expense on contingent consideration; change in fair value of contingent consideration; gain on sale of assets; foreign exchange gain (loss); and income taxes.

4 (In Canadian dollars, amounts in thousands except number of shares and per share amounts

The following table highlights key financial information as at September 30, 2019 and December 31, 2018:

Financial Position	September 30, 2019	December 31, 2018	Variance ($)	Variance (%)
Cash and cash equivalents	$ 34,025	$ 42,407	$ (8,382)	-20%
Total assets	56,744	64,872	(8,128)	-13%
Total liabilities	8,142	11,207	(3,065)	-27%
Total shareholders' equity	48,602	53,665	(5,063)	-9%

The following table provides the details of our EBITDA for the three and nine months ended September 30, 2019 and 2018:

	Three months ended September 30, 2019	Three months ended September 30, 2018	Nine months ended September 30, 2019	Nine months ended September 30, 2018
Net income for the period	$ 1,487	$ 1,249	$ 1,666	$ 7,984
Add (deduct)				
Finance income	(133)	(142)	(502)	(286)
Accretion expense on contingent consideration	127	187	404	570
Income taxes	562	440	827	3,667
Depreciation of property and equipment	406	374	1,201	1,080
Amortization of intangible assets	261	333	747	984
Foreign exchange (gain) loss	(272)	551	786	(1,167)
EBITDA[(1)] for the period	**$ 2,438**	**$ 2,992**	**$ 5,129**	**$ 12,832**

(1) EBITDA is a non-GAAP measure and is therefore not universally defined. The Company defines EBITDA as earnings before finance income, accretion expense, income taxes, depreciation, amortization and foreign exchange (gain) loss.

5 (In Canadian dollars, amounts in thousands except number of shares and per share amounts

OVERALL PERFORMANCE AND DISCUSSION OF OPERATIONS

Revenue

Total revenues for the three and nine months ended September 30, 2019 decreased 13% and 38% over the prior comparable periods, respectively. All of the Company's sales are made in the semiconductor industry, and the decrease in revenues reflects a reduction in wafer fabrication equipment spending by original equipment manufacturers primarily due to the semiconductor cycle. This was partially offset by increased revenues associated with the successful transition of a new distributor in Asia, as they build their inventory position to service future market demand, and revenues derived from new product development as the Company continued to collaborate with customers and invest in technology innovation.

The following table provides a summary of our revenues by territory:

	Three months ended September 30, 2019	Three months ended September 30, 2018	Variance ($)	Variance (%)	Nine months ended September 30, 2019	Nine months ended September 30, 2018	Variance ($)	Variance (%)
United States	$ 4,765	$ 5,475	$ (710)	-13%	$ 15,025	$ 22,819	$ (7,794)	-34%
Asia	3,977	4,577	(600)	-13%	8,855	15,652	(6,797)	-43%
Total	**$ 8,742**	**$ 10,052**	**$ (1,310)**	**-13%**	**$ 23,880**	**$ 38,471**	**$ (14,591)**	**-38%**

For the three and nine months ended September 30, 2019, revenues generated from customers located in the United States and Asia decreased over the prior comparable periods due to inventory reduction strategies employed by our customers following reduced levels of semiconductor equipment capital spending.

Gross Profit

Gross profit decreased for the three and nine months ended September 30, 2019 over the prior comparable periods as a result of lower overall revenues. Gross margin for the quarter increased to 54.8% from 51.7% in the prior comparable period, and for the year-to-date period, gross margin decreased to 54.1% from 55.5% in the prior comparable period. The variability of gross margin is a function of sale volume, product and customer mix.

Operating Expenses

Total operating expenses for the three and nine months ended September 30, 2019 were $3,070 and $10,213 compared to $3,020 and $9,968 in the prior comparable periods, respectively.

General and Administrative

General and administrative totaled $1,426 and $5,122 for the quarter and year-to-date compared to $1,361 and $5,316 in the prior comparable periods, respectively. While expenses were relatively flat for the quarter, the decrease for the year-to-date period was the result of cost reduction measures in response to the cyclical nature of the semiconductor industry. The decrease in spend for the nine months ended September 30, 2019 was partially offset by the onboarding and recruiting costs related to the hiring of the Company's Chief Executive Officer in the current period.

6 (In Canadian dollars, amounts in thousands except number of shares and per share amounts

Engineering

Engineering totaled $1,289 and $3,605 for the quarter and year-to-date periods compared to $966 and $2,708 in the prior comparable periods, respectively. The increases in engineering expenses reflect the costs to support new product development and investments in disruptive technologies as part of the Company's growth strategy, which was partially offset by investment tax credits recognized in the current year for research and development activities.

Sales and Marketing

Sales and marketing totaled $355 and $1,486 for the quarter and year-to-date periods compared to $693 and $1,944 in the prior comparable periods, respectively. The decreases for the quarter and year-to-date periods were due to streamlining and focusing our sales and marketing efforts on future growth priorities, which resulted in lower staffing costs and marketing spend for the current periods.

Accretion Expense on Contingent Consideration

Contingent consideration relates to the acquisition of certain assets of Photon R&D in 2017. It is determined using a discount model applied to royalties on revenues earned from defined products from January 1, 2017 to December 31, 2021. Accretion expense represents the calculated increase of contingent consideration resulting from the passage of time.

Change in Fair Value of Contingent Consideration

Change in fair value of contingent consideration resulted in a gain of $50 and $482 for the quarter and year-to-date periods, compared to a gain of $112 and a loss of $790 in the comparable periods in 2018, respectively. Change in fair value of contingent consideration is based on revisions to management's estimate of the potential total amount of contingent consideration compared to the estimate made at the end of the preceding period. The gain for the current periods in 2019 resulted from a decrease in management's estimate of future royalties payable to Photon Control R&D Ltd. as the industry has witnessed significantly curtailed investments in the memory sector.

Foreign Exchange Gain/Loss

The Company is subject to foreign exchange risk as its products are priced in United States dollars ("USD"), while the majority of its expenses and assets are denominated in Canadian dollars. The Company does have a partial "natural hedge" against foreign exchange risk, as some of its component parts and accounts payable are priced and or valued in USD. The foreign exchange gain for the three months ended September 30, 2019 was due to the weakening of the Canadian dollar relative to the US dollar throughout the period.

Income Taxes

Income taxes for the three and nine months ended September 30, 2019 were $562 and $827 compared to $440 and $3,667 in the prior comparable periods, respectively.

EBITDA

EBITDA is defined as earnings before finance income, accretion expense, income taxes, depreciation, amortization and foreign exchange gain (loss). EBITDA for the three and nine months ended September 30, 2019 were $2,438 and $5,129 compared to $2,992 and $12,832 in the comparable periods in 2018, respectively. The decreases were due to lower overall profitability resulting from decreased revenues due to the semiconductor cycle and increased engineering costs to support the Company's growth strategy.

Order Backlog

Order backlog was $11,921 on September 30, 2019, an increase from $10,714 at June 30, 2019 and a decrease from $13,097 at December 31, 2018. Order backlog represents the unfulfilled value of sales orders received and scheduled for fulfillment in the remaining rolling 6-month period. The increase in order backlog versus June 30, 2019 is attributable to improved near-term demand from customers.

SUMMARY OF QUARTERLY RESULTS

The global semiconductor industry is fast paced, competitive and constantly innovating to increase processing speed and power. The ability to anticipate these technological changes and innovate to meet them without compromising quality, is a key competitive advantage in this market. As a supplier of componentry to semiconductor WFE manufacturers, Photon Control's key strengths include our rapid prototyping capabilities, our ISO-certified production facility and CE methods, and our ability to manufacture to our customer's exacting standards with our highly trained workforce. In addition to our high-quality manufacturing strengths, our products include unique proprietary characteristics which both differentiate our products and allow us to outperform competitive offerings.

The following table provides a summary of the Company's financial results for the eight most recently completed quarters.

	Q4 2017 (Restated)	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019
Revenue	$ 11,033	$ 13,854	$ 14,565	$ 10,052	$ 8,233	$ 8,032	$ 7,106	$ 8,742
Gross profit	$ 4,955	$ 7,879	$ 8,288	$ 5,193	$ 4,287	$ 4,230	$ 3,891	$ 4,791
Gross profit %	45%	57%	57%	52%	52%	53%	55%	55%
Net income	$ 2,574	$ 2,882	$ 3,853	$ 1,249	$ 2,699	$ 70	$ 109	$ 1,487
Basic EPS	$ 0.02	$ 0.03	$ 0.03	$ 0.01	$ 0.03	$ 0.00	$ 0.00	$ 0.01
Diluted EPS	$ 0.02	$ 0.03	$ 0.03	$ 0.01	$ 0.03	$ 0.00	$ 0.00	$ 0.01
Cash and cash equivalents	$ 34,345	$ 33,367	$ 40,794	$ 42,651	$ 42,407	$ 37,264	$ 31,422	$ 34,025

8 (In Canadian dollars, amounts in thousands except number of shares and per share amounts

Following a prolonged period of growth, since the second quarter of 2018, the Company's revenue has declined as a result of the cyclical nature of the semiconductor industry, as the industry experienced a period of weakness until the memory market re-stabilizes. Revenue for the most recently completed quarter increased as the Company benefitted from robust revenues from new product development and the successful transition of a new distributor in the quarter. The Company's net income in 2017 was negatively affected by non-recurring items and was restated for a previously unreported liability of income taxes owing to a foreign jurisdiction. The restatement is fully described in the Company's annual consolidated financial statements for the years ended December 31, 2018 and 2017.

LIQUIDITY AND CAPITAL RESOURCES

The following table provides a summary of the Company's working capital as at September 30, 2019 and December 31, 2018:

	September 30, 2019	December 31, 2018	Variance
Cash and cash equivalents	$ 34,025	$ 42,407	$ (8,382)
Trade and other receivables	3,421	4,065	(644)
Income taxes receivable	971	-	971
Inventories	4,942	5,515	(573)
Prepaid expenses and deposits	486	468	18
Total current assets	**43,845**	**52,455**	**(8,610)**
Accounts payable and accrued liabilities	4,102	3,524	578
Income taxes payable	-	4,354	(4,354)
Current portion of contingent consideration	1,105	1,118	(13)
Current portion of lease liabilities	266	-	266
Total current liabilities	**5,473**	**8,996**	**(3,523)**
Working capital	**$ 38,372**	**$ 43,459**	**$ (5,087)**

Management believes the Company will be able to continue to meet its liabilities and commitments as they become due and will generate sufficient amounts of cash and cash equivalents from the continued manufacturing and distribution of existing products and the commercialization of new products. This cash will be used to maintain capacity, meet planned growth and development activities and other corporate initiatives. The Company continues to monitor all expenditures and implement cash management strategies to ensure that it has adequate cash reserves to fund identified expenditure requirements.

Notwithstanding the Company's positive working capital position, the Company may require financing in order to satisfy future growth activities. The Company may also need additional capital to fund specific growth projects or acquisitions in the future, and while no such projects are planned at this time, a change in circumstances could result in the need for additional capital.

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Capital Management

The Company considers shareholders' equity as capital, the book value of which totaled $48,602 at September 30, 2019 (December 31, 2018 - $53,665).

The Company manages its capital structure to safeguard its ability to operate as a going concern, to provide sufficient resources to meet day-to-day operating requirements, to allow it to enhance existing product offerings as well as develop new ones, and to have the financial ability to expand the size of its operations by taking on new customers. In managing its capital structure, the Company takes into consideration various factors, including the growth of its business and related infrastructure and the upfront cost of taking on new customers.

The Company's officers and senior management are responsible for managing the Company's capital and do so through regular meetings and regular review of financial information. The Company's Board of Directors is responsible for overseeing this process.

Working Capital

The decrease in working capital over December 31, 2018 was due to cash of $7,095 used towards the Normal Course Issuer Bid ("NCIB") to re-purchase and cancel 5,490,000 common shares as at September 30, 2019.

Cash and Cash Equivalents

At September 30,2019, the Company held cash and cash equivalents of $34,025 compared to $42,407 as at December 31, 2018. The decrease was attributable to cash used to buy back shares of the Company and timing of tax payments made in the period, including the full payment of taxes made to a foreign jurisdiction as part of a voluntary disclosure agreement.

Trade and Other Receivables

Trade and other receivables of $3,421 decreased from $4,065 as at December 31, 2018 primarily due to the timing of revenues earned in the period.

Inventories

Inventories as at September 30, 2019 totaled $4,942 compared to $5,515 as at December 31, 2018; the decrease is due to higher levels of consumption resulting from revenues for the three months ended September 30, 2019.

The Company follows a "Copy Exact" standard in providing its products to its customers and is required to maintain adequate inventory on hand to fill purchase orders from its customers. As a result, and due to the fact that the timing and quantum of such purchase orders cannot be forecasted with complete accuracy, the Company's inventory supply must be planned to protect against variation between the forecast and actual customer demand. These variances in demand and revenue can have a short-term effect on the Company's liquidity from time to time.

Accounts Payable and Accrued Liabilities

As at September 30, 2019, the Company's accounts payable and accrued liabilities, which are due for payment within 12 months of the balance sheet date, were $4,102 compared to $3,524 as at December 31, 2018; the increase is consistent with stronger sales activities and an improved backlog position.

OFF BALANCE SHEET ARRANGEMENTS

The Company had no off-balance sheet arrangements other than short-term lease agreements and a credit card facility.

LEASE LIABILITIES

The Company's leases liabilities are for office premises. The carrying amount of the lease liabilities as at September 30, 2019 was $1,563 and the breakdown of contractual undiscounted cash flows for lease liabilities and short-term leases by maturities as at September 30, 2019 is presented below:

	September 30, 2019
Less than one year	**$ 383**
One to five years	**1,349**
More than five years	**107**
Total	**$ 1,839**

For the three and nine months ended September 30, 2019, interest expense on lease liabilities was $20 and $60, and lease expenses related to short-term leases were $34 and $80, respectively.

RELATED PARTY TRANSACTIONS

The remuneration of key management for the three and nine months ended September 30, 2019 and 2018 is as follows:

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Cash-based payments	**$ 338**	$ 334	**$ 1,054**	$ 1,199
Share-based payments	**44**	75	**228**	471
Total	**$ 382**	$ 409	**$ 1,282**	$ 1,670

Cash-based payments include salaries, bonuses, consulting fees and other benefits.

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FINANCIAL INSTRUMENTS AND FAIR VALUES

Measurement categories, fair values and valuation methods

The Company's financial assets and liabilities, with the exception of contingent consideration liability, are measured using amortized costs which approximates fair value due to the nature of these instruments:

	September 30, 2019		December 31, 2018	
	Carrying value	**Fair value**	**Carrying value**	**Fair value**
Financial assets	**$ 37,446**	**$ 37,446**	$ 46,472	$ 46,472
Financial liabilities	**4,102**	**4,102**	3,524	3,524

Fair value hierarchy

The following financial assets and liabilities are measured at fair value on a recurring basis using quoted prices in active markets for identifiable assets (Level 1); significant other observable inputs (Level 2); and significant unobservable inputs (Level 3):

September 30, 2019	**Carrying value**	**Level 1**	**Fair value Level 2**	**Level 3**
Financial liabilities				
Contingent consideration	$ 2,477	$ -	$ -	$ 2,477

December 31, 2018	**Carrying value**	**Level 1**	**Fair value Level 2**	**Level 3**
Financial liabilities				
Contingent consideration	$ 3,329	$ -	$ -	$ 3,329

The Company used a discounted cash flow valuation technique in calculating the fair value of the contingent consideration. This valuation technique included inputs relating to estimated cash outflows under the arrangement and the use of a discount rate appropriate to the Company (20%). The fair value measurements are sensitive to the discount rate used in calculating the fair values. A 1% increase in the discount rate would reduce the fair value of the contingent consideration by $25. During the three and nine months ended September 30, 2019, the Company recorded accretion expense of $127 and $404 (2018 - $187 and $570) in relation to contingent consideration, respectively, reflecting the change in fair value of liability that is attributable to market risk.

Financial risk factors

The Company is exposed to a number of risks. These risks include credit risk, liquidity risk and market risk. The Company has established policies and procedures to manage these risks, with the objective of minimizing the adverse effects that changes in the variable underlying these risks could have on the Company's consolidated financial statements.

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Credit risk

The following table provides information regarding the aging of trade and other receivables as at September 30, 2019 and December 31, 2018:

	Neither past due nor impaired	Aged 1 - 30 days	Aged 31 - 60 days	Aged 61 - 90 days	Aged 90 + days
As at September 30, 2019	**90%**	**9%**	**1%**	**0%**	**0%**
As at December 31, 2018	98%	2%	0%	0%	0%

As at September 30, 2019, 10% (December 31, 2018 – 2%) of the Company's trade and other receivables were past due. The definition of items that are past due was determined by reference to the Company's standard credit terms, net of any provisions for losses. At each period end, the Company reviews the collectability of outstanding receivables. Specific accounts are only written off once all collection efforts have been explored or when legal bankruptcy has occurred. During the three and nine months ended September 30, 2019, the Company did not incur any bad debt expense (2018 – recovery of $5 and expense of $93, respectively).

Liquidity risk

At September 30, 2019, the Company had a $130 credit card facility (December 31, 2018 - $80) with a Canadian Chartered bank.

Market risk

Foreign exchange risk

At September 30, 2019, the Company held net current monetary assets in United States dollars ("USD") equal to $23,032 (December 31, 2018 - $27,095). The Company estimates the impact of a 10% change in the Canadian dollar exchange rate on its net current monetary assets to be $2,303 (December 31, 2018 - $2,710).

Interest rate risk

The Company is exposed to interest rate risk by virtue of holding cash and cash equivalents.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of condensed interim consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

13 (In Canadian dollars, amounts in thousands except number of shares and per share amounts

The judgments, estimates, assumptions applied in the condensed interim consolidated financial statements, including key sources of estimation uncertainty, were the same as those applied in the most recent annual consolidated financial statements for the years ended December 31, 2018 and 2017, except for the change in significant accounting policy related to lessee accounting under IFRS 16, Leases ("IFRS 16"), which are described below.

CHANGES IN SIGNIFICANT ACCOUNTING POLICIES

Except as described below, the accounting policies applied in these condensed interim consolidated financial statements were the same as those applied in the most recent annual consolidated financial statements for the years ended December 31, 2018 and 2017.

The changes in significant accounting policies are also expected to be reflected in the consolidated financial statements of the Company for the year ending December 31, 2019.

IFRS 16, Leases

At adoption

The Company adopted IFRS 16 with a date of initial application of January 1, 2019. IFRS 16 introduces a single, on-balance sheet accounting model for lessees. As a result, the Company, as a lessee, has recognized right-of-use-assets representing its rights to use the underlying assets and lease liabilities representing its obligations to make future lease payments. The Company has applied IFRS 16 with the modified retrospective approach, which did not require restatement of prior period financial information as it recognized the cumulative effect of initial application in retained earnings at January 1, 2019 and applied the standard prospectively. Accordingly, comparative information in the Company's condensed interim consolidated statements were not restated.

When transitioning to IFRS 16, the Company elected to apply the practical expedient to grandfather the assessment of which transactions are leases and applied IFRS 16 only to existing contracts that were previously identified as leases applying IAS 17, Leases and IFRIC 4, Determining Whether an Arrangement Contains a Lease. The Company has elected to not recognize right-of-use assets and lease liabilities for leases that have a term of twelve months or less and leases of low-value assets. The leases impacted by IFRS 16 were related to office premises previously accounted for as operating leases and disclosed as commitments.

Upon adoption of IFRS 16, the Company measured the right-of-use assets and lease liabilities at the present value of the lease payments as if it had applied IFRS 16 since the commencement date, using the incremental borrowing rate of 4.45% at the date of initial application. The adoption of IFRS 16 on January 1, 2019 resulted in the recognition of right-of-use assets of $1,683 and lease liabilities of $1,755, and a decrease in retained earnings of $72.

The following table provides a reconciliation of the Company's operating lease obligations at December 31, 2018, as previously disclosed in the Company's consolidated financial statements, to the lease obligations recognized on initial application of IFRS 16 at January 1, 2019:

Operating lease commitments at December 31, 2018	**$**	**1,880**
Discounted using the incremental borrowing rate at January 1, 2019		(255)
Recognition exemption for short-term leases		(100)
Extension options reasonably certain to be exercised		230
Lease liabilities recognized at January 1, 2019	**$**	**1,755**

There was a change in the significant accounting policy upon adoption of IFRS 16, as described below.

Leases – accounting policy

At inception of a contract, the Company assesses whether a contract is, or contains, a lease by determining whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. A right-of-use asset and lease liability are recognized at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises 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 and estimated restoration costs, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, including periods covered by an option to extend the lease if the Company is reasonably certain to exercise that option.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date. The lease payments are discounted using the implicit interest rate in the lease. If the rate cannot be readily determined, the Company's incremental rate of borrowing is used. 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 from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option.

The Company has elected not to recognize right-of-use assets and lease liabilities for leases for short-term leases that have a lease term of twelve months or less and leases of low-value assets. The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

IFRIC 23, Uncertainty over Income Tax Treatments ("IFRIC 23")

The Company adopted IFRIC 23 with a date of initial application of January 1, 2019. The Company applied IFRIC 23 retrospectively and did not have any quantitative impacts upon adoption. There were no differences in the accounting of the Company's income tax treatments under its previous accounting policy and IFRIC 23.

Government assistance

15 (In Canadian dollars, amounts in thousands except number of shares and per share amounts

Investment tax credits, whether or not recognized in the financial statements, may be carried forward to reduce future Canadian federal and provincial income taxes payable. The Company applies judgment when determining whether the reasonable assurance threshold has been met to recognize investment tax credits in the financial statements. The Company must interpret eligibility requirements in accordance with Canadian income tax laws and must assess whether future taxable income will be available against which the investment tax credits can be utilized. Any changes in these interpretations and assessments could have an impact on the amount and timing of investment tax credits recognized in the financial statements.

RESTATEMENT OF PRIOR COMPARATIVE INFORMATION

As described in the most recent annual consolidated financial statements for the years ended December 31, 2018 and 2017, the Company restated its comparative financial information related to a previously unreported liability of income taxes owing to a foreign jurisdiction. As a result, the Company restated its condensed interim consolidated statement of changes in shareholders' equity for the nine months ended September 30, 2018. This resulted in a decrease of $1,581 in retained earnings as at January 1, 2018. For further details, please refer to the consolidated financial statements for the years ended December 31, 2018 and 2017.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

Disclosure controls and procedures

The Company has disclosure controls and procedures in place that are designed to provide reasonable assurance that information relating to the Company that is required to be disclosed under applicable securities laws is recorded, processed, summarized, and reported in the manner specified by such laws. Management has reviewed and evaluated, or caused to be evaluated under their supervision, the design of the Company's disclosure controls and procedures as of September 30, 2019.

The Company's Chief Executive Officer ("CEO") and the Chief Financial Officer ("CFO") have reviewed and evaluated the design of the Company's disclosure controls and procedures related to the preparation of Management's Discussion and Analysis and the Company's consolidated financial statements as at September 30, 2019. The Company's CEO and CFO have concluded that the Company's disclosure controls and procedures were designed, 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 Management's Discussion and Analysis and the consolidated financial statements contained in this report were being prepared.

Internal control over financial reporting

The Company's management, with the participation of its CEO and CFO, are also responsible for establishing and maintaining adequate internal control over financial reporting, as defined in National Instrument 52-109 – *Certification of Disclosure in Issuers' Annual and Interim Filings*, in order to provide reasonable assurance regarding the reliability and accuracy of the Company's financial reporting and the preparation of its financial statements for external purposes in accordance with IFRS.

The Company's CEO and CFO have evaluated, or caused to be evaluated under their supervision, the design of the Company's internal control over financial reporting as of September 30, 2019.

There have been no changes in the Company's disclosure controls or internal control over financial reporting during the three months ended September 30, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting. The Company's CEO and CFO will certify Photon Control's quarterly filings with the Canadian securities regulatory authorities.

OUTSTANDING SHARE DATA

As at September 30, 2019, the Company had 104,476,973 common shares issued and outstanding. As at November 5, 2019, the Company had 104,513,571 common shares were issued and outstanding.

As at September 30, 2019 the Company had 3,498,000 stock options outstanding entitling the holders to purchase one common share for each option held. As at November 5, 2019, the Company had 3,298,416 stock options outstanding.

As at September 30, 2019, the Company had restricted share units outstanding for 86,000 common shares. As at November 5, 2019, the Company had restricted share units outstanding for 43,000 common shares.

RISKS AND UNCERTAINTIES

Our business is subject to significant risks and uncertainties and past performance is no guarantee of future performance. The risks and uncertainties in the Company's most recently filed AIF, which is available on the Canadian System for Electronic Document Analysis and Retrieval website ("SEDAR" (www.sedar.com) are those that we currently believe to be material, and do not represent all of the risks that we face. Additional risks and uncertainties, not presently known to us, may become material in the future or those risks that we currently believe to be immaterial may become material in the future. If any of the following risks actually occur, alone or in combination, our business, financial condition and results of operations, as well as the market price of our common shares, could be materially adversely affected.

SEDAR

Additional information relating to the Company, including the Company's AIF, is available on SEDAR at www.sedar.com.

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This MD&A contains certain statements and information that are not based on historical facts and constitute forward-looking statements or forward-looking information within the meaning of Canadian securities laws (collectively, “forward-looking statements”), including our business outlook for the short and longer term and statements regarding our strategy, plans and future operating performance. Forward-looking statements are provided to help you understand our views of our short and longer-term plans, expectations and prospects. We caution you that forward-looking statements may not be appropriate for other purposes.

Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often, but not always, identified by words or phrases such as “expects”, “is expected”, “anticipates”, “believes”, “plans”, “projects”, “estimates”, “assumes”, “intends”, “strategy”, “goals”, “objectives”, “potential”, “possible” or variations thereof or stating that certain actions, events, conditions or results “may”, “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved, or the negative of any of these terms and similar expressions) are not statements of historical fact and may be forward-looking statements. Forward-looking statements are not promises or guarantees of future performance; they represent our current views and may change significantly. Forward-looking statements are based on a number of material assumptions, including, but not limited to, those listed below, which could prove to be significantly incorrect:

- our ability to develop, manufacture and sell new products that meet the needs of our customers and gain commercial acceptance;
- our ability to continue to sell our products in line with expected quantity, price and delivery times;
- our ability to attract new business;
- continued and future demand for the Company’s products;
- continued sales to the Company’s major customers;
- our operations not being adversely affected by supply, operating, cyber security, litigation or regulatory risks;
- our ability to react to the cyclical nature of the semiconductor industry; and,
- our expectations regarding market risk, including interest rate changes, tax changes and foreign currency fluctuations.

The forward-looking statements included in this report include, without limitation, statements relating to:

- factors that expect to drive continued demand for the Company’s products;
- expected growth within the semiconductor industry and the Company’s reliance on the financial health of the semiconductor industry from which it derives its sales;
- the market for the Company’s products;
- sources of our revenues from operations in the future;
- continued international expansion and the effect of such expansion on our operations;
- potential acquisitions in the future and the effect of such acquisitions on our operations;
- fluctuation of the price of the common shares of the Company in the future;
- potential inability of investors to sell their common shares of the Company; and
- our future performance being dependent on our ability to hire and retain qualified personnel.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any results, performance or achievements expressed or implied by the forward-looking statements. Such uncertainties and factors include, among others:

- risks associated with the Company's ability to retain major customers;
- risks associated with a lengthy sales cycle;
- risks related to our dependency on the semiconductor industry and our ability to respond to industry cyclicality;
- risks associated with the Company's ability to expand its manufacturing capacity or reduce costs in response to rapid shifts in demand for the Company's products;
- risks associated with continuous technological change, evolving industry standards, shifting customer needs and new product introductions and enhancements;
- risks associated with failure to operate our business in accordance with our business plan;
- uncertainty relating to the timing of product development and commercial launch;
- risks associated with competition;
- operational risks associated with manufacturing and our dependence on sole or limited source suppliers;
- risks associated with compliance with customers' requirements;
- uncertainty relating to operating results;
- risks related to legal, regulatory and tax environments in which we conduct our business;
- risks associated with product liability claims;
- risks related to product pricing;
- risks related to inability to use or access information systems, or related to breaches of our network security;
- risks associated with manufacturing interruptions or delays;
- risks relating to legal proceedings and with the Company's intellectual property;
- risks associated with infringing on the intellectual property rights of others;
- uncertainty relating to general economic conditions;
- risks related to tariffs or other trade restrictions;
- risks related to future mergers or acquisitions;
- uncertainty related to international operations, including currency fluctuations, additional development projects and other business opportunities;
- risks related to the volatility of the trading price and volume of the common shares;
- risks associated with maintaining an active market for the common shares;
- risks associated with our directors and officers;
- risks associated with attracting and retaining qualified personnel; and
- risks associated with compliance with various federal, provincial, local and international laws governing the environment.

This list is not exhaustive of the factors that may affect any of our forward-looking statements. Forward looking statements are statements about the future and are inherently uncertain, and our actual achievements or other future events or conditions may differ materially from those reflected in the forward-looking statements due to a variety of risks, uncertainties and other factors, including, without limitation, those referred to in this report under the heading "Risks and Uncertainties".

The Company's forward-looking statements are based on beliefs, expectations and opinions of management on the date the statements are made. For the reasons set forth above, readers should not place undue reliance on forward-looking statements. The Company undertakes no obligation to update or revise any forward-looking statements included herein if these beliefs, estimates and opinions or other circumstances should change, except as otherwise required by applicable law.