

Management's Discussion and Analysis  
For the three and nine months ended September 30, 2020  
November 5, 2020

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## INTRODUCTION

This Management's Discussion and Analysis of Quarterhill Inc. (this "MD&A") is dated November 4, 2020. References in this MD&A to "Quarterhill", "we", "us" and "our" refer to Quarterhill Inc. and its consolidated subsidiaries during the periods presented unless the context requires otherwise and references to "Common Shares" in this MD&A refer to common shares in the capital of Quarterhill.

The Common Shares are listed under the symbol "QTRH" on the Toronto Stock Exchange (the "TSX"). On December 3, 2019 we announced that our Board of Directors (our "Board") had approved the delisting of the Common Shares from the Nasdaq Global Select Market and to terminate the registration of the Common Share under the U.S. Securities Exchange Act of 1934, as amended. To continue to support our shareholders in the United States, we listed our Common Shares on the United States OTCQX Best Market (the "OTCQX") under the symbol "QTRHF" which became effective December 23, 2019.

Quarterhill is a Canadian company in the Intellectual Property ("IP") and Intelligent Transportation System ("ITS") industries. Our goal is to pursue an investment strategy that capitalizes on attractive market trends in both ITS and its adjacent markets.

Our business model is to build a consistently profitable company through the acquisition, management and growth of companies in our dedicated technology areas, with an emphasis on seeking out acquisition opportunities that provide a foundation for profitable growth. We will focus on opportunities that have a strategic fit with opportunities for synergies, attractive valuations, recurring revenues, strong gross profits, predictable cash flows, deep customer relationships and dedicated management teams among other considerations. In appropriate circumstances, we may also divest certain assets if favourable conditions for such a divestiture are presented.

This MD&A provides information for the three and nine month periods ended September 30, 2020 and up to and including November 4, 2020. This MD&A should be read in conjunction with Quarterhill's interim condensed consolidated financial statements and the notes thereto for the three and nine months ended September 30, 2020 and September 30, 2019, which have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

Unless otherwise indicated, all financial information in this MD&A is reported in thousands of Canadian dollars, except for share and earnings per share data which is reported in number of shares and Canadian dollars respectively. The tables and charts included in this document form an integral part of this MD&A.

Up until December 31, 2019, we prepared our consolidated financial statements in accordance with U.S. Generally Accepted Accounting Principles and in U.S. dollars. Since the current year's interim condensed consolidated financial statements represent our first presentation of our results and financial position under IFRS, they were prepared in accordance with International Accounting Standards ("IAS") 34, "Interim Financial Reporting" and IFRS 1, "First-Time Adoption of IFRS." Subject to certain transition elections, we have consistently applied the same accounting policies in our opening IFRS statement of financial position at January 1, 2019, and throughout all periods presented as if these policies had always been in effect.

This MD&A has been prepared with reference to National Instrument 51-102 - Continuous Disclosure Obligations of the Canadian Securities Administrators. Additional information filed by us with the Canadian Securities Administrators, including quarterly reports, annual reports and our Annual Information Form for the year ended December 31, 2019 (our "AIF"), is available on-line at [www.sedar.com](http://www.sedar.com) and also on our website at [www.Quarterhill.com](http://www.Quarterhill.com).

Our management is responsible for establishing appropriate information systems, procedures and controls to ensure that all financial information disclosed externally, including in this MD&A, and used internally by us, is complete and reliable. These procedures include the review and approval of our financial statements and associated information, including this MD&A, first by our management's Disclosure Committee, then by our Board's Audit Committee (the "Audit Committee") and, finally, by our Board as a whole.

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## Q3 2020 BUSINESS HIGHLIGHTS

### Strong Performance from Both Business Units

Both of Quarterhill's operating units, International Road Dynamics ("IRD") and Wi-LAN Inc. ("WiLAN") enjoyed strong results in Q3 2020. IRD's revenue of \$20,734 and Adjusted EBITDA of \$7,477 were both the highest in its history. WiLAN's revenue of \$67,263 and Adjusted EBITDA of \$34,353 were also amongst the best quarterly results ever achieved by WiLAN. Please refer to the Segmented Results section of this MD&A for further details of the Q3 2020 and Q3 2020 YTD financial performance of IRD and WiLAN.

Amongst several projects currently under execution, IRD's strong quarter was driven by significant revenues on a project currently underway for the State of Indiana encompassing 20% of IRD's total revenue for the quarter. The project, when fully completed, will comprise 11 sites, encompassing 27 lanes, delivering IRD's WIM controllers, WIM sensors, license plate recognition cameras and US DOT readers. The project is expected to be fully delivered in 2021.

IRD also announced several new contracts signed during Q3 2020 further adding to its order backlog. IRD received a contract for the design, supply, installation, service, and integration of two Weigh-in-Motion ("WIM") systems in the Republic of Paraguay. IRD was also awarded a contract to provide end-to-end support and maintenance services for five WIM systems located in New York State for their Commercial Vehicle Electronic Screening Program with a value of US\$2.0 million over a 5-year period. Finally, IRD through its partnership with SEA Electronics LLC was awarded a US\$3.3 million commercial vehicle enforcement systems contract in Ukraine. Under the terms of the contract, IRD will provide high-speed virtual WIM systems for six sites in Ukraine that will provide commercial vehicle enforcement, traffic monitoring, and reporting capability through a web-based application.

WiLAN's strong performance in Q3 2020 resulted from the execution of several new patent license agreements during the quarter, including the settlement and dismissal of all litigation pending as applicable, with Intel Corporation, Kingston Technology Corporation and Konica Minolta, Inc. WiLAN also announced in Q3 2020 that it had acquired an additional portfolio of patents from International Business Machines Corporation ("IBM") through its wholly-owned subsidiary, Elpis Technologies Inc. related to semiconductor manufacturing process technologies.

### New Executive Appointment

On August 31, 2020 we announced the appointment of Mr. John Rim as Chief Financial Officer of Quarterhill, effective October 1, 2020. Mr. Rim is an executive with 25 years' experience in varied finance and leadership roles across multiple industries, including the technology sector. Mr. Rim is responsible for all aspects of financial planning and reporting, treasury, financing, internal controls, governance, and capital markets and will play a key role in the execution of Quarterhill's strategic plans.

### Return of Capital

On July 7, 2020, we completed our previously announced Substantial Issuer Bid ("SIB") resulting in the repurchase for cancellation of 2,687,981 Common Shares at an average purchase price of \$2.15 per share, plus transaction costs of \$0.5 million, for a total of \$6.3 million. In addition, pursuant to the Normal Course Issuer Bid ("NCIB") approved by the Toronto Stock Exchange, we repurchased 1,585,336 Common Shares at an average price of \$1.89 per share totaling \$3.0 million as at September 30, 2020. In total, the Company repurchased 4,273,317 Common Shares for \$9.3 million under both SIB and NCIB as at the end of Q3 2020. See further details in Capital and Liquidity section below.

### COVID - 19 Pandemic Update

As the COVID-19 Pandemic continues to affect the global economy, we have continued to take active steps in each of our business segments to protect our employees and business operations as further described below.

#### *Protecting our Employees, Customers, and Communities*

The health and safety of our stakeholders remains critical to Quarterhill. During the past quarter, we have continued to employ proactive measures such as providing for work from home, eliminating travel and closely following the guidelines issued by applicable health and regulatory authorities. During this time, our human resource policies have

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evolved to respond to questions or concerns from our employees while continuing to explore opportunities to return to an “in office” work environment.

### *Operations*

To date, our portfolio companies remain in full operation, and continue to execute on the delivery of existing customer mandates, while also working to build and sustain business pipelines and advance new opportunities through their respective sales cycles. As expected, the enhanced precautions being taken, and the broader dynamic of the current business environment, has resulted in some delay in the delivery of certain ongoing services, but fundamentally, the operating prospects for all portfolio companies remain sound and are backed by Quarterhill's strong balance sheet.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements and forward-looking information within the meaning of Canadian securities laws, including such statements relating to:

- assumptions and expectations described in our critical accounting policies and estimates;
- our expectation regarding the adoption and impact of certain accounting pronouncements;
- our expectation regarding the growth rates of our subsidiaries' businesses;
- our estimates regarding our effective tax rate;
- our expectations regarding ability to acquire additional businesses to further our growth; and
- our expectations with respect to the sufficiency of our financial resources.

The words “expect”, “anticipate”, “estimate”, “may”, “will”, “should”, “would”, “intend”, “believe”, “plan”, “continue”, “project”, the negatives of these words or other variations on these words, comparable terms and similar expressions are intended to identify forward-looking statements and forward-looking information. Forward-looking statements and forward-looking information are based on estimates and assumptions made by us in light of our experience and our perception of historical trends, current conditions and expected future developments, as well as other factors that we believe are appropriate in the circumstances.

We provide forward-looking statements and forward-looking information to assist external stakeholders in understanding our management's expectations and plans relating to the future as of the date of this MD&A and such statements and information may not be appropriate for any other purposes. The forward-looking statements and forward-looking information in this MD&A are made as of the date of this MD&A only. We have no intention and undertake no obligation to update or revise any forward-looking statements or forward-looking information, whether as a result of new information, future events or otherwise, except as required by law.

## CAUTIONARY NOTE REGARDING USE OF NON-IFRS MEASURES

Quarterhill has historically used a set of metrics when evaluating our operational and financial performance. We continually monitor, evaluate and update these metrics as required to ensure they provide information considered most useful, in the opinion of our management, to any decision-making based on Quarterhill's performance. This section defines, quantifies and analyzes the key performance indicators used by our management and referred to elsewhere in this MD&A, which are not recognized under IFRS and have no standardized meaning prescribed by IFRS. These indicators and measures are therefore unlikely to be comparable to similar measures presented by other issuers.

In this MD&A, we use the non-IFRS term “**Adjusted EBITDA**” to mean net income (loss) from continuing operations adjusted for: (i) income taxes; (ii) finance expense or income; (iii) amortization and impairment of intangibles; (iv) special charges and other one-time items; (v) depreciation of right-of-use assets and property, plant and equipment; (vi) effects of deleted deferred revenue; (vii) stock-based compensation; (viii) foreign exchange (gain) loss; and (ix) equity in earnings and dividends from joint ventures. Adjusted EBITDA is used by our management to assess our normalized cash generated on a consolidated basis and in our operating segments. Adjusted EBITDA is also a performance measure that may be used by investors to analyze the cash generated by Quarterhill and our operating segments. Adjusted EBITDA should not be interpreted as an alternative to net income and cash flows from operations as determined in accordance with IFRS or as a measure of liquidity.

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## DESCRIPTION OF OUR BUSINESS

Quarterhill is a disciplined acquirer and manager of established technology companies operating alongside our existing patent monetization business. Our goal is to pursue an investment strategy that capitalizes on attractive market trends in the ITS industry and its adjacent markets. Additionally, in appropriate circumstances, we may also divest certain assets if favourable conditions for such a divestiture are presented.

### *Strategy*

We are focusing our business on the acquisition, management and growth of companies in the ITS industry and its adjacent markets, with an emphasis on seeking out acquisition opportunities that provide a foundation for profitable growth and that have reasonable valuations, recurring revenues, predictable cash flows and gross profit, intimate customer relationships and dedicated management teams among other material considerations.

We believe that if we increase the share of our revenue derived from sources such as annual maintenance and long term contracts, we will also increase our cash flows and predictability of our revenues. This will allow us to better scale our operations to ensure we meet our strategic mandate of operating profitably regardless of the prevailing economic market conditions as we grow both organically and through acquisitions.

Our existing businesses are fully described in more detail in our AIF. As a result of the disposition of VIZIYA, which was the only investment in our Enterprise Software segment, we now operate in two business segments providing technology licensing and ITS as we currently review our operating results, assess our performance, make decisions about resources and generate discrete financial information for each of these segments. We have called these segments Licensing and Intelligent Transportation Systems.

### *Licensing Segment*

Our Licensing segment focuses on technology licensing as its principal business activity. We have an investment in WiLAN, a leading patent licensing company, based in Ottawa, Canada with offices in California and Texas. WiLAN has developed and patented inventions that have proven of great value to third-parties and has a history of acquiring patents that it believes hold great value from other inventors.

Both directly and through its wholly owned subsidiaries, WiLAN partners with its customers and other third parties to unlock the value of intellectual property through various patent monetization models. WiLAN's partnership model with large, global industry leaders allows WiLAN to maintain and grow its pipeline of valuable patent portfolios with no up-front costs while its contingency fee arrangement with legal partners allows WiLAN to predictably manage its costs.

WiLAN operates in a variety of markets including automotive, digital television, Internet, medical, semiconductor and wireless communications technologies. WiLAN's patent licensing agreements generally take into consideration license rights and releases for past infringement. Related payments may be lump-sum, fixed-price with set payments made over a specified duration or running royalty-based depending on a price per-unit and/or a percentage of product sales or service revenues enjoyed by licensees.

WiLAN's proven track record, business and technical expertise, as well as its strong reputation in the IP licensing industry has allowed it to continue to be successful. WiLAN continues to access valuable patent portfolios through strategic partnerships with some of the world's largest companies seeking to monetize and protect their patents.

### *Intelligent Transportation Systems Segment*

Our Intelligent Transportation Systems segment includes companies providing systems and services focused on the interconnection of devices for mobile applications. Our first investment in this segment is IRD. Headquartered in Saskatoon, Canada, IRD is one of the world's leading providers of integrated systems and solutions for the global ITS industry. The ITS industry is focused on improving and enhancing the safety, increasing the efficiency and reducing the environmental impact of highway and roadway transportation systems. IRD has a network of direct and independent operations and relationships in strategic geographic regions to identify and pursue ITS opportunities around the world.

IRD's core strengths are its national and international sales networks and installed base of systems, its intellectual property (trade names, patents, trademarks and other proprietary knowledge) and its ability to utilize a variety of patented and proprietary and original equipment manufacturer technologies, including IRD's proprietary "Weigh-In-

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Motion” and vehicle measurement technologies, to detect, classify and weigh vehicles at highway speeds. IRD delivers automated systems for commercial vehicle operations at truck weigh stations, border crossings, highway traffic data collection and highway toll collection systems.

IRD’s customers include government transportation agencies, traffic engineering consultants and operators, city and municipal agencies, concessionaires and industrial, mining and transportation service companies worldwide.

IRD’s revenue is derived from selling ITS services, systems and products. IRD’s systems are made up of a combination of proprietary electronics, software technology, “Weigh-In-Motion” and vehicle measurement products and installation and commissioning services. Service contracts are typically multi-year, renewable arrangements for IRD to maintain and service its installed systems and products for its customers. In addition, IRD enters into recurring revenue service contracts under which they own the equipment providing customer services such as delivery of real time and statistical traffic information and truck weigh station bypass services.

## **BUSINESS COMBINATIONS**

As a result of the impact of COVID-19 on the global economy, the underlying uncertainty concerning valuations, the importance of preserving cash and vacancies in some key corporate executive positions in the past twelve months, we had temporarily paused our M&A strategy to focus on our existing businesses. Throughout this period, however, we maintained our M&A ecosystem, to build a growing pipeline of opportunities.

We remain focused on building robust cash flows and controlling expenses throughout all our businesses to maintain a healthy and sustainable balance sheet capable of supporting both our organic and acquisitive growth opportunities. With our management team now fully in place, a strong balance sheet, and the strength and progress in our portfolio companies, we are well positioned to resume our M&A growth strategy and we are actively pursuing targets in the ITS industry that are synergistic and accretive to Quarterhill.

## OVERALL PERFORMANCE

### Interim Condensed Consolidated Statements of Income

(Unaudited)

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

	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Revenues				
License	\$ 67,192	\$ 4,833	\$ 77,009	\$ 74,360
Systems	15,380	12,586	34,521	34,069
Recurring	5,425	4,524	14,904	16,198
	<u>87,997</u>	<u>21,943</u>	<u>126,434</u>	<u>124,627</u>
Direct cost of revenues				
License	32,064	8,694	40,867	41,732
Systems	8,202	7,497	20,776	21,721
Recurring	2,130	3,255	7,596	10,627
	<u>42,396</u>	<u>19,446</u>	<u>69,239</u>	<u>74,080</u>
Gross profit	45,601	2,497	57,195	50,547
Operating expenses				
Depreciation of right-of-use assets	257	290	738	1,056
Depreciation of property, plant and equipment	250	188	721	1,086
Amortization of intangibles	4,726	5,779	14,316	17,688
Selling, general and administrative expenses	6,424	6,409	18,545	19,228
Research and development expenses	390	712	1,814	2,229
Impairment losses on intangibles	62	–	295	–
Special charges	–	(15,277)	872	1,402
	<u>12,109</u>	<u>(1,899)</u>	<u>37,301</u>	<u>42,689</u>
Results from operations	33,492	4,396	19,894	7,858
Finance income	(146)	(499)	(528)	(1,157)
Finance expense	153	144	367	609
Foreign exchange loss (gain)	72	(210)	(513)	155
Other income	(383)	(157)	(1,192)	(496)
Income before taxes	33,796	5,118	21,760	8,747
Current income tax expense	325	342	1,669	5,797
Deferred income tax expense (recovery)	8,943	(2,572)	5,462	495
Income tax expense (recovery)	9,268	(2,230)	7,131	6,292
Net income from continuing operations	\$ 24,528	\$ 7,348	\$ 14,629	\$ 2,455
Net income from discontinued operations	\$ –	\$ 4,927	\$ 14,255	\$ 3,835
Net income	\$ 24,528	\$ 12,275	\$ 28,884	\$ 6,290
<b>Net income per share</b>				
From continuing operations	\$0.21	\$0.06	\$0.13	\$0.02
From discontinued operations	–	0.04	0.12	0.03
<b>Net income per share - Basic</b>	<u>\$0.21</u>	<u>\$0.10</u>	<u>\$0.25</u>	<u>\$0.05</u>
From continuing operations	\$0.21	\$0.06	\$0.12	\$0.02
From discontinued operations	–	0.04	0.12	0.03
<b>Net income per share - Diluted</b>	<u>\$0.21</u>	<u>\$0.10</u>	<u>\$0.24</u>	<u>\$0.05</u>

Consolidated revenues for the three and nine months ended September 30, 2020 were \$87,997 and \$126,434 as compared to \$21,943 and \$124,627 in the respective comparative prior periods. The increase in the current quarter relates to our Licensing segment where revenues increased \$62,291 over the prior year comparative period due to

limited license activity in Q3 2019. Revenues from the Intelligent Transportation Systems segment also increased by \$3,763 or 22% over the prior year comparative period primarily due to shift in timing of customer project activities.

The components of our revenue are as noted below:

License	License revenues includes all revenues associated with technology licenses, perpetual software licenses and other revenues characterized as one-time licenses.
Systems	Systems revenues includes revenues earned on contracted projects, generally recognized on a percentage completion basis plus proprietary and OEM products sales, which are distributed directly and through a network of distributor/agency relationships. These projects generally result in the delivery of a complete system to the customer.
Recurring	Recurring revenues represents revenues realized under service and maintenance contracts, revenues from running royalties and data analytics services. The underlying contracts included in this category generally range from one to five years.

For the three months ended September 30, 2020 License revenues were \$67,192 related to technology licenses granted, Systems revenues were \$15,380 and Recurring revenues were \$5,425.

Gross margin, calculated as revenues less direct cost of revenues for the three and nine months ended September 30, 2020 was \$45,601 or 52% and \$57,195 or 45% compared to \$2,497 or 11% and \$50,547 or 41% for the prior year respective periods. For the current quarter our Licensing segment generated \$35,415 in gross margin compared to \$(3,722) in the prior year comparative period while our Intelligent Transportation Systems segment generated \$10,456 in gross margin compared to \$6,219 in the prior year comparative period.

Direct cost of revenues includes: (i) for our Licensing segment, patent licensing expenses which include royalty obligations, cost of patents if purchased from brokers, employee costs, costs incurred in conducting license negotiations, contingent partner and legal fee payments and other licensing and litigation expenses as well as all costs associated with the ownership, maintenance and management of the related patents; and (ii) for our Intelligent Transportation Systems segment, all costs of delivering on a project including employee costs, inventory consumption costs, subcontractor costs and costs related to any maintenance and warranty work completed.

Consolidated operating expenses are comprised of depreciation, amortization of intangible assets, selling, general and administrative costs, research and development costs, impairment losses on intangibles, and special charges. Total operating expenses for the three months ended September 30, 2020 were \$12,109 as compared to \$(1,899) in the comparative prior year period. The significantly lower operating costs in the three months ended September 30, 2019 were the result of the reversal of a prior period accrual for contingent consideration resulting in a recovery of \$15,277. Current period depreciation of right-of-use assets, amortization of intangibles, selling, general and administrative expenses and research and development expenses were lower than the prior year comparative period offset by slightly higher costs in depreciation of property, plant and equipment and impairment loss on intangibles.

Selling, general and administrative costs are primarily comprised of management, sales and administrative personnel costs, sales and marketing expenses, occupancy costs, and professional advisory and regulatory fees. Research and development ("R&D") costs are primarily composed of salary and materials costs associated with our various R&D activities, net of government grants and investment tax credits. Selling, general and administrative and research and development expenses for the three months ended September 30, 2020 totaled \$6,814 as compared to \$7,121 for the comparative prior year period. The decrease of \$307 in the quarter compared to the prior year period was primarily due to reduced operating costs and grant recoveries related to the Government of Canada's Canada Emergency Wage Subsidy (the "CEWS") program.

Special charges include costs and recoveries that relate to certain restructuring initiatives undertaken from time to time, acquisition-related costs and recoveries and other charges. Special charges for the three months ended September 30, 2020 were \$nil as compared to a recovery of \$15,277 for the prior year comparative period resulting from the reversal of a prior period accrual for contingent consideration related to our 2017 acquisition of VIZIYA.

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During Q2 2020 we completed the disposition of VIZIYA Corp. (“VIZIYA”), a portfolio company in Quarterhill’s previously reported Enterprise Software segment, for total cash proceeds of \$49.4 million, resulting in a pre-tax gain on disposition of \$17,713. The sale of this business segment is reported in our financial statements in accordance with IFRS 5 - *Non-current assets held for sale and discontinued operations* disclosure requirements.

Net income from discontinued operations for the nine months ended September 30, 2020 of \$14,255 reflects the disposition of VIZIYA, our single investment in the Enterprise Software segment and is comprised of the gain on disposition of \$17,713 less applicable deferred taxes of \$1,559, plus the net loss from this segment’s operations of \$1,899 up to the date of sale on May 15, 2020.

### **Reconciliation of Net Income to Adjusted EBITDA**

We consider Adjusted EBITDA, a non-IFRS measure, to be a good indicator for the business to capture financial performance in a given period related to the operations of Quarterhill and each of our reporting segments.

We reported Adjusted EBITDA of \$39,035 and \$37,280 and for the three and nine months ended September 30, 2020 compared to \$(4,386) and \$29,834 for the respective comparative prior year periods. With the creation of Quarterhill and the adoption of a growth oriented strategy anchored in acquisitions of technology businesses in 2017, we began tracking expenses related to the acquisitions. Special charges generally consist of advisor fees, accounting and valuation fees, due diligence related expenses and legal fees, restructuring charges, and other one-time items. Although these expenses may recur as we complete additional acquisitions, they are not fundamental to the actual operations of our businesses and, therefore, have been excluded in the calculation of Adjusted EBITDA. The remaining adjustments we have made relate to finance income or expense, depreciation and amortization, impairment loss on intangibles, stock-based compensation, equity earnings and dividends from joint venture, other acquisition related accounting items and other one-time charges.

From time to time, we acquire businesses in purchase transactions that typically result in the recognition of goodwill and other identifiable intangible assets. Acquired goodwill is not amortized but is subject to impairment testing at least annually and as other events and circumstances dictate. Other identifiable intangible assets are typically subject to amortization and, therefore, will likely increase future expenses. The determination of the value of such intangible assets requires us to make estimates and assumptions. We have ascribed value to identifiable intangible assets other than goodwill in our purchase price allocations including, but not limited to, backlog, brand and customer and technology related intangible assets. To the extent we ascribe value to identifiable intangible assets that have finite lives, we amortize those values over the estimated useful lives of the assets. We amortize customer related intangible assets over a period of seven years and developed software related intangible assets over five years.

Deferred revenue is a key metric of our business because it indicates a level of sales already made that will be recognized as revenue in the future. As required by IFRS, in determining the fair value of the liabilities assumed under purchase accounting, the acquired deferred revenue is to be recorded at fair value to the extent it represents an assumed legal obligation. The estimated fair value of the deferred revenue will likely result in an adjustment reducing the consolidated deferred revenue upon acquisition. To evaluate the ordinary course operations of our acquired businesses, we add back this deleted revenue in the calculation of Adjusted EBITDA.

**Reconciliations of Net income to Adjusted EBITDA**

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

	Three months ended September 30,			
	2020		2019	
	\$	Per Share	\$	Per Share
Net income from continuing operations	\$ 24,528	\$ 0.21	\$ 7,348	\$ 0.06
Adjusted for:				
Income tax expense (recovery)	9,268	0.08	(2,230)	(0.02)
Foreign exchange loss (gain)	72	—	(210)	—
Finance expense	153	—	144	—
Finance income	(146)	—	(499)	—
Special charges	—	—	(15,277)	(0.13)
Impairment losses on intangible assets	62	—	—	—
Amortization of intangibles	4,726	0.05	5,779	0.05
Depreciation of property, plant and equipment	250	—	188	—
Depreciation of right-of-use assets	257	—	290	—
Stock based compensation expense	248	—	238	—
Other income	(383)	—	(157)	—
<b>Adjusted EBITDA</b>	<b>\$ 39,035</b>	<b>\$ 0.34</b>	<b>\$ (4,386)</b>	<b>\$ (0.04)</b>

Weighted average number of Common Shares

Basic	115,990,313	118,817,466
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	Nine months ended September 30, 2020			
	2020		2019	
	\$	Per Share	\$	Per Share
Net income from continuing operations	\$ 14,629	\$ 0.13	\$ 2,455	\$ 0.02
Adjusted for:				
Income tax expense	7,131	0.06	6,292	0.05
Foreign exchange (gain) loss	(513)	—	155	—
Finance expense	367	—	609	0.01
Finance income	(528)	—	(1,157)	(0.01)
Special charges	872	0.01	1,402	0.01
Impairment losses on intangible assets	295	—	—	—
Amortization of intangibles	14,316	0.12	17,688	0.15
Depreciation of property, plant and equipment	721	—	1,086	0.01
Depreciation of right-of-use assets	738	0.01	1,056	0.01
Stock based compensation expense	444	—	744	0.01
Other income	(1,192)	(0.01)	(496)	(0.01)
<b>Adjusted EBITDA</b>	<b>\$ 37,280</b>	<b>\$ 0.32</b>	<b>\$ 29,834</b>	<b>\$ 0.25</b>

Weighted average number of Common Shares

Basic	117,884,124	118,817,466
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## SEGMENTED RESULTS

Segmented results of operations for the three months ended September 30, 2020 and 2019 are included in this MD&A. Following the disposition of VIZIYA in the quarter ended September 30, 2020, Quarterhill now operates in two distinct segments.

CONTINUING OPERATIONS	For the three months ended September 30, 2020			
	Licensing	Intelligent Systems	Corporate	Total
Revenues				
License	\$ 67,192	\$ —	\$ —	\$ 67,192
Systems	—	15,380	—	15,380
Recurring	71	5,354	—	5,425
	67,263	20,734	—	87,997
Direct cost of revenues	32,118	10,278	—	42,396
Gross profit	35,145	10,456	—	45,601
Depreciation of right-of-use assets	61	181	15	257
Depreciation and amortization	3,449	1,522	5	4,976
Selling, general and administrative expenses	862	2,607	2,955	6,424
Research and development expenses	—	390	—	390
Impairment losses of intangible assets	62	—	—	62
Results from operations	30,711	5,756	(2,975)	33,492
Finance (income) expense, net	(18)	110	(85)	7
Foreign exchange (gain) loss	(280)	305	47	72
Other income	—	(383)	—	(383)
Income (loss) before taxes	31,009	5,724	(2,937)	33,796
Income tax expense	7,608	1,236	424	9,268
<b>Net income (loss) from continuing operations</b>	<b>\$ 23,401</b>	<b>\$ 4,488</b>	<b>\$ (3,361)</b>	<b>\$ 24,528</b>

CONTINUING OPERATIONS	For the Nine months ended September 30, 2020			
	Licensing	Intelligent Systems	Corporate	Total
Revenues				
License	\$ 77,009	\$ —	\$ —	\$ 77,009
Systems	—	34,521	—	34,521
Recurring	774	14,130	—	14,904
	77,783	48,651	—	126,434
Direct cost of revenues	40,949	28,290	—	69,239
Gross profit	36,834	20,361	—	57,195
Depreciation of right-of-use assets	185	508	45	738
Depreciation and amortization	10,552	4,469	16	15,037
Selling, general and administrative expenses	2,586	8,424	7,535	18,545
Research and development expenses	—	1,814	—	1,814
Impairment losses of intangible assets	295	—	—	295
Special charges	—	659	213	872
Results from operations	23,216	4,487	(7,809)	19,894
Finance (income) expense, net	(62)	228	(327)	(161)
Foreign exchange loss (gain)	1,316	(624)	(1,205)	(513)
Other income	—	(1,192)	—	(1,192)
Income (loss) before taxes	21,962	6,075	(6,277)	21,760
Income tax expense	2,879	730	3,522	7,131
<b>Net income (loss) from continuing operations</b>	<b>\$ 19,083</b>	<b>\$ 5,345</b>	<b>\$ (9,799)</b>	<b>\$ 14,629</b>

CONTINUING OPERATIONS	For the three months ended September 30, 2019			
	Licensing	Intelligent Systems	Corporate	Total
Revenues				
License	\$ 4,833	\$ —	\$ —	\$ 4,833
Systems	—	12,586	—	12,586
Recurring	139	4,385	—	4,524
	\$ 4,972	\$ 16,971	\$ —	\$ 21,943
Direct cost of revenues	8,694	10,752	—	19,446
Gross profit	(3,722)	6,219	—	2,497
Depreciation of right-of-use assets	98	177	15	290
Depreciation and amortization	4,533	1,429	5	5,967
Selling, general and administrative expenses	559	3,121	2,729	6,409
Research and development expenses	—	712	—	712
Special charges	9	—	(15,286)	(15,277)
Results from operations	(8,921)	780	12,537	4,396
Finance (income) expense, net	(166)	101	(290)	(355)
Foreign exchange loss (gain)	151	(292)	(69)	(210)
Other income	—	(157)	—	(157)
(Loss) income before taxes	(8,906)	1,128	12,896	5,118
Income tax (recovery) expense	(2,725)	65	430	(2,230)
Net (loss) income from continuing operations	\$ (6,181)	\$ 1,063	\$ 12,466	\$ 7,348

CONTINUING OPERATIONS	For the Nine months ended September 30, 2019			
	Licensing	Intelligent Systems	Corporate	Total
Revenues				
License	\$ 74,360	\$ —	\$ —	\$ 74,360
Systems	—	34,069	—	34,069
Recurring	1,102	15,096	—	16,198
	\$ 75,462	\$ 49,165	\$ —	\$ 124,627
Direct cost of revenues	41,732	32,348	—	74,080
Gross profit	33,730	16,817	—	50,547
Depreciation of right-of-use assets	479	532	45	1,056
Depreciation and amortization	14,022	4,737	15	18,774
Selling, general and administrative expenses	1,542	9,516	8,170	19,228
Research and development expenses	—	2,229	—	2,229
Special charges	2,444	—	(1,042)	1,402
Results from operations	15,243	(197)	(7,188)	7,858
Finance (income) expense, net	(228)	536	(856)	(548)
Foreign exchange (gain) loss	(340)	37	458	155
Other income	(4)	(492)	—	(496)
Income (loss) before taxes	15,815	(278)	(6,790)	8,747
Income tax expense (recovery)	7,652	(1,013)	(347)	6,292
Net income (loss) from continuing operations	\$ 8,163	\$ 735	\$ (6,443)	\$ 2,455

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*Licensing Segment*

Our Licensing segment presently is comprised of the operations of WiLAN.

	For the three months ended September 30,		For the Nine months ended September 30,	
	2020	2019	2020	2019
Revenues	\$ 67,263	\$ 4,972	\$ 77,783	\$ 75,462
Direct cost of revenues	32,118	8,694	40,949	41,732
Gross profit	35,145	(3,722)	36,834	33,730
Depreciation of right-of-use assets	61	98	185	479
Depreciation and amortization	3,449	4,533	10,552	14,022
Selling, general and administrative expenses	862	559	2,586	1,542
Impairment losses of intangible assets	62	—	295	—
Special charges	—	9	—	2,444
Results from operations	30,711	(8,921)	23,216	15,243
Finance income, net	(18)	(166)	(62)	(228)
Foreign exchange (gain) loss	(280)	151	1,316	(340)
Other income	—	—	—	(4)
Income (loss) before taxes	31,009	(8,906)	21,962	15,815
Income tax expense (recovery)	7,608	(2,725)	2,879	7,652
Net income (loss) from continuing operations	\$ 23,401	\$ (6,181)	\$ 19,083	\$ 8,163
Adjusted EBITDA	\$ 34,353	\$ (4,269)	\$ 34,417	\$ 32,187
<i>Other reconciling items:</i>				
Stock-based compensation	\$ 70	\$ 12	\$ 169	\$ (1)

For the three and nine months ended September 30, 2020, revenues were \$67,263 and \$77,783 as compared to \$4,972 and \$75,462 in the respective comparative prior year periods. The increase in revenues for the current quarter resulted from larger licensing contracts being signed in the quarter as compared to the same quarter last year. Virtually all of WiLAN's licenses are one-time in nature and accordingly, significant fluctuations in revenue, gross profit, and Adjusted EBITDA will result when volume or dollar value of licenses changes from one period to the next.

Patent licenses are considered a promise to provide the right to use intellectual property ("IP") and revenue is recognized when the patent right is effective. An exception to this guidance is related to revenue generated from sales or usage-based royalties promised in exchange for an intellectual property license. Customers generally report their royalty obligations one quarter in arrears and accordingly, we will estimate the expected royalties to be reported for a particular accounting period, with a true up to the actual royalties reported in the following financial reporting period.

Direct cost of revenues for the three months ended September 30, 2020 were \$32,118 and \$40,949 as compared to \$8,694 and \$41,732 for the respective comparative prior year periods. The variability in direct cost of revenues on the quarter is principally a result of a large increase in contingent litigation and contingent partner payments. This was directly related to a large licensing contract concluded in the third quarter of 2020 for which these expenses were incurred. Litigation payments will fluctuate from quarter to quarter depending on the specific actions underway at that time.

Operating expenses are generally considered selling, general and administration type expenses and include all overheads for WiLAN operations in addition to depreciation, amortization expense and any loss on disposal or impairment losses. For the three months ended September 30, 2019, operating expenses also included special charges related to the segment restructuring activities. For the three months ended September 30, 2020, operating expenses within this segment were \$4,434 as compared to \$5,199 in the comparative year prior period. This decrease in costs is primarily related to lower amortization of intangibles. For the nine months ended September 30, 2020, operating expenses within this segment were \$13,618 as compared to \$18,487 in the comparative year prior period. This decrease in costs is primarily related to lower amortization of intangibles, and a reduction in special charges related to the segment restructuring activities undertaken in the prior year comparative period.

Income tax expense for the three months ended September 30, 2020 was an expense of \$7,608 compared to a recovery of \$2,725 in the comparative prior year period. The change in tax expense is largely due to an increase in profitability in the quarter as compared to the prior year quarter. Current income tax expense for all reported periods consists primarily of foreign taxes withheld on payments received from licensees in foreign tax jurisdictions for which there is no treaty relief.

As at September 30, 2020, we have recorded a valuation allowance of \$18.9 million against deferred tax assets for certain of WiLAN's Canadian and all of its U.S. subsidiaries, since management believes it is more likely than not that WiLAN will be unable to utilize these assets to offset future taxes. We expect WiLAN to continue to utilize certain previously recognized Canadian tax loss carryforwards which will result in deferred income tax expense. Until such time as WiLAN's licensing programs in certain of its Canadian and U.S. subsidiaries generate sufficient taxable income, we expect to continue to maintain a full valuation allowance against deferred tax assets for these Canadian and U.S. subsidiaries.

### *Intelligent Transportation Systems Segment*

	For the three months ended September 30,		For the Nine months ended September 30,	
	2020	2019	2020	2019
Revenues	\$ 20,734	\$ 16,971	\$ 48,651	\$ 49,165
Direct cost of revenues	10,278	10,752	28,290	32,348
Gross profit	10,456	6,219	20,361	16,817
Depreciation of right-of-use assets	181	177	508	532
Depreciation and amortization	1,522	1,429	4,469	4,737
Selling, general and administrative expenses	2,607	3,121	8,424	9,516
Research and development expenses	390	712	1,814	2,229
Special charges	—	—	659	—
Results from operations	5,756	780	4,487	(197)
Finance expense, net	110	101	228	536
Foreign exchange loss (gain)	305	(292)	(624)	37
Other income	(383)	(157)	(1,192)	(492)
Income (loss) before taxes	5,724	1,128	6,075	(278)
Income tax expense (recovery)	1,236	65	730	(1,013)
Net income from continuing operations	\$ 4,488	\$ 1,063	\$ 5,345	\$ 735
Adjusted EBITDA	\$ 7,477	\$ 2,415	\$ 10,186	\$ 5,176

#### *Other reconciling items:*

Stock-based compensation	\$ 18	\$ 29	\$ 63	\$ 105
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Our Intelligent Transportation Systems segment consists of IRD's operations, which includes each of IRD's wholly-owned subsidiary businesses). IRD revenue streams are categorized as either Systems or Recurring. Systems revenues comprises revenues earned on contracted projects, generally recognized over time, plus proprietary and OEM products sales, which are distributed directly and through its network of distributor/agency relationships. Recurring revenues represent revenue realized under service and maintenance contracts, warranty and data solution services. These contracts generally range from one to five year terms. Recurring revenues are recognized either over time or on a time and material basis, depending on contract terms.

Segment revenue from Systems for the three and nine months ended September 30, 2020 was \$15,380 and \$34,521 as compared to \$12,586 and \$34,069 for the respective comparative prior year periods. The increase in systems revenue in the quarter relates primarily to several major projects underway in the United States market. Systems revenue will routinely vary significantly depending on the timing and nature of projects underway in the reporting period. Recurring revenue for the three and nine months ended September 30, 2020 was \$5,354 and \$14,130 as compared to \$4,385 and \$15,096 for the respective comparative prior year periods. The increase in recurring revenue is also reflective of the varied nature and timing of service deliveries. such as system upgrades performed under service contracts that do not necessarily reoccur in any given contract period, thus resulting in variance in year over year results. For the year to date in 2020, recurring revenues remain comparable to prior periods as IRD has achieved a

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100% renewal rate on all term maintenance contracts and continues to hold a strong position in service activities, primarily in the U.S. market.

IRD's gross profit value and as a percentage of revenues are subject to significant variance in each reporting period due to the nature and type of contract and service works currently in process, currency volatility and competitive factors. In addition, seasonal weather effects, primarily in IRD's North American business will generally reduce gross profit values because of the effect of fixed capacity expenses which are a component of cost of revenues. In the current quarter, IRD gross margin was 50%. This improvement was the result of CEWS benefits and significant margins earned on certain projects worked on during the quarter. Over a full fiscal year, gross profit percentages will generally approximate 30% to 33%.

As noted below in the Risk and Uncertainties section, many countries remain in COVID-19-related lockdown and/or have imposed restrictions on non-essential business activities. As a result, there remains some risk that certain project work will be deferred or restricted and new orders delayed, particularly in jurisdictions outside of Canada and the United States. While IRD is not immune to the impacts of the COVID-19 Pandemic, its industry has been less affected than many others as IRD has been deemed "essential" in many of the jurisdictions where they operate. As a result, the majority of IRD's contract work has continued throughout the year although with some reduction in work efficiencies due mainly to work and travel restrictions, particularly in our international markets.

Total operating expenses comprise selling, general and administrative costs, research and development costs, depreciation, and amortization of intangible assets and special charges. Total operating expenses for the three and nine months ended September 30, 2020 were \$4,700 and \$15,874 as compared to \$5,439 and \$17,014 in the respective comparative prior year periods. The decline in quarter over quarter costs, reflects reductions in both selling, general and administrative expenses as well as research and development expenses due to CEWS benefits received.

IRD is committed to continual investments in research and development to enhance its current products and advance the availability of new products. For the nine months ended September 30, 2020, net research and development spending levels were 4% of segment revenue. Current investments reflect the priority of ensuring full development of Vectorsense sensor and Vehicle Information-In-Motion™ (VI<sup>2</sup>M™) Traffic Intelligence system as well as several other new product developments and enhancements. Total R&D expenses have been offset, in part, by accrued CEWS benefits and other government grant recoveries that have enabled IRD to maintain staffing levels to accelerate its R&D activities in the area of data analytics and new non-intrusive sensor technologies.

IRD is exposed to foreign exchange risk primarily relating to sales revenue, operating and capital expenditures, net assets held in foreign currencies, forward exchange contracts and embedded derivative portions of unearned revenue on certain U.S. dollar denominated sales contracts in its North America, Latin America and Mexico markets. IRD has exposure to the U.S. dollar, Indian rupee, Chilean peso, Mexican peso, Euro and Chinese yuan as more fully described in the Financial Instruments and Other Risks section below.

For the three and nine months ended September 30, 2020, IRD recorded foreign exchange losses of \$305 and year to date gains of \$624 as compared to gains of \$292 and year to date losses of \$37 for the respective comparative prior year periods. Foreign currency gains and losses reflect the changes in the value of the U.S. dollar relative to the Canadian dollar and Chilean peso, which will increase or decrease the carrying value of U.S. dollar net assets. Foreign exchange translation gains or losses arising on consolidation of IRD's subsidiaries in Chile, Mexico and Belgium and its joint venture in China are recorded as accumulated other comprehensive income, which is a component of shareholders' equity.

Other expenses (income) is comprised of IRD's share of income in its joint venture, XPCT, of which IRD owns a 50% joint venture interest. XPCT has two business divisions providing products and services to both the ITS Industry and construction equipment manufacturers. For the three and nine months ended September 30, 2020, IRD's share of XPCT's income was \$383 and \$1,192 as compared to \$157 and \$492 for the respective comparative prior year periods. The improved performance over the prior year periods is primarily due to the continued strong performance in XPCT's wire harness division.

The effective tax rate can vary from the Canadian statutory tax rate of approximately 26.5% applied to earnings before income taxes because of different rates of tax on foreign income, XPCT net earnings and foreign currency translation gains or losses on consolidation of foreign subsidiaries. As a result, the consolidated effective tax rate is not representative of income tax rates effective in the jurisdictions in which IRD operates.

As at September 30, 2020, IRD has recorded estimated income taxes payable or receivable in each of the Canada, United States and Chile entities based on statutory rates applicable to those jurisdictions, adjusted for non-taxable or non-deductible items and net of applied investment tax credit balances available to offset income taxes otherwise payable in the Canadian corporate entity.

#### *Former Enterprise Software Segment*

On May 15, 2020, we disposed of our investment in VIZIYA, which represented our single investment in our Enterprise Software segment, for total cash proceeds of \$49.4 million. Net income from the discontinued operations of this segment for the Nine months ended September 30, 2020 was \$14,255, comprised of the net loss from operations up to the date of sale of \$1,899 and a gain on sale of \$17,713 less applicable deferred taxes of \$1,559. Net income for the Nine months ended September 30, 2019 was \$3,835.

This sale has generated significant cash proceeds to Quarterhill and delivered a strong internal rate of return on our initial investment. Proceeds from the transaction has allowed us to return some capital to shareholders and provide further support for our growth initiatives. Please see additional discussion in Capital and Liquidity section below.

## SELECTED CONSOLIDATED QUARTERLY RESULTS

(Unaudited)

Quarter ended	Revenues \$ 000's	Net income (loss) \$ 000's	Net income (loss) per share (basic) \$	Adjusted EBITDA * \$ 000's	Adjusted EBITDA per share *(basic) \$
September 30, 2020	87,997	24,528	0.21	39,035	0.34
June 30, 2020	16,824	(4,987)	(0.04)	(1,992)	(0.02)
March 31, 2020	21,613	(4,912)	(0.04)	236	0.00
December 31, 2019	48,298	9,680	0.08	18,687	0.16
September 30, 2019	21,943	7,348	0.06	(4,386)	(0.04)
June 30, 2019	52,878	(5,632)	(0.05)	17,082	0.14
March 31, 2019	49,806	738	0.01	17,138	0.14
December 31, 2018	33,559	(26,314)	(0.22)	4,176	0.03

Adjusted EBITDA and the respective per share amounts are non-IFRS measures, please refer to "Non-IFRS Disclosures" and "Reconciliation of Adjusted EBITDA" sections of this MD&A

Amounts presented for 2020 and 2019 are prepared in accordance with IFRS, while 2018 balances are prepared in accordance with U.S. Generally Accepted Accounting Principles and include the discontinued operations.

Historically, our operating results have fluctuated on a quarterly basis and we expect that quarterly results will continue to fluctuate in the future. Operating results for interim periods should not be relied upon as an indication of the results to be expected or achieved in any future period or any fiscal year as a whole. The risk factors affecting our revenue and results, many of which are outside of our control, include those set out in our AIF.

## CAPITAL AND LIQUIDITY

Our cash, cash equivalents and short-term investments, inclusive of any restricted amounts, totaled \$129,679 at September 30, 2020 as compared to \$89,420 at December 31, 2019 representing an increase of \$40,259. At September 30, 2020, we had working capital of \$180,277 as compared to \$112,688 as at December 31, 2019 to cover long-term obligations of \$6,485. Our cash position remains very strong, however, due to the nature of our business segment activities, operating cash flows may vary significantly between periods due to changes in working capital balances.

Quarterhill has a revolving credit facility available in the amount of \$8,000 (or the equivalent in U.S. dollars) for general corporate purposes and a further \$1,100 for foreign exchange facility. Canadian dollar or U.S. dollar amounts advanced under this credit facility are payable on demand and bear interest at the bank's Canadian prime rate plus 1.0% per annum or U.S. base rate plus 1.0% per annum as may be applicable. Borrowings under this facility are collateralized by a general security agreement over our cash and cash equivalents, receivables and present and future personal property. As at and during the quarter ended September 30, 2020, we had no borrowings under this facility.

IRD has a credit facility through HSBC Bank Canada (“HSBC”) which may be borrowed against by way of banker’s acceptances at prevailing market rates to a maximum of \$9,500 or by way of U.S. dollar advances to a maximum of US\$7,100. Borrowings on this facility are restricted to the lesser of US\$7,100 and the margin total on the following assets in Canada and the United States: 90% of secured and government accounts receivable less than 120 days and 50% of inventory to a maximum of \$2,300. As at September 30, 2020 \$2,411 of approximately \$3,593 available was drawn on this facility.

IRD’s credit facility and demand term loans with HSBC are secured by a general security agreement on IRD’s assets held in Canada having a carrying value at September 30, 2020 of \$33.2 million. In addition, IRD’s subsidiaries in the U.S, Chile and India have provided corporate guarantees as security.

IRD is subject to covenants on its credit facility and long-term debt with HSBC as follows: current ratio greater than 1.2 to 1 (tested monthly); debt to tangible net worth less than 2.5 to 1 (tested monthly); and debt service coverage ratio greater than 1.25 to 1 (tested annually) based on IRD’s financial results. At September 30, 2020, IRD is in compliance with these covenants.

Our cash resources are generally used to fund our operations, provide incremental financing to any of our subsidiaries if needed and to acquire additional businesses. We may also fund our ongoing cash requirements through the use of additional short-term and long-term debt and, if desirable based on market conditions, by selling Common Shares and debt securities to the public.

On July 7, 2020, we completed our previously announced SIB resulting in the repurchase for cancellation of 2,687,981 Common Shares at an average purchase price of \$2.15 per share, plus transaction costs of \$0.5 million, for a total of \$6.3 million. In addition, pursuant to the NCIB approved by the Toronto Stock Exchange, we repurchased 1,585,336 Common Shares at an average price of \$1.89 per share totaling \$3.0 million. In total, the Company repurchased 4,273,317 Common Shares for \$9.3 million under both the SIB and NCIB as at the end of Q3 2020.

## CONTRACTUAL OBLIGATIONS

Contractual obligations relating to bank indebtedness, accounts payable and accrued liabilities, long-term debt, and lease liabilities as at September 30, 2020 are as follows:

	Total	Less than 1 year	2 - 3 years	4 - 5 years	Thereafter
Bank indebtedness	\$ 3,214	\$ 3,214	\$ –	\$ –	\$ –
Accounts payable and accrued liabilities	40,198	40,198	–	–	–
Long-term debt	311	43	46	39	183
Lease liabilities	3,632	886	1,423	478	845
	<u>\$ 47,355</u>	<u>\$ 44,341</u>	<u>\$ 1,469</u>	<u>\$ 517</u>	<u>\$ 1,028</u>

## OUTSTANDING COMMON SHARE DATA

We are authorized to issue an unlimited number of Common Shares, 6,350.9 special preferred, redeemable, retractable, non-voting shares and an unlimited number of preferred shares, issuable in series. As at September 30, 2020, there were 114,592,016 Common Shares and no special or preferred shares issued and outstanding. We also maintain the Quarterhill Inc. 2018 Equity Incentive Plan (the “Plan”). Under the Plan, we can issue a maximum of 10% of our issued and outstanding Common Shares from time to time which was, as at September 30, 2020, 11,459,202 Common Shares combined. As at September 30, 2020, we had options granted to purchase up to 6,630,685 Common Shares. During the three months ended September 30, 2020, the Company repurchased for cancellation 2,687,981 common shares at an average purchase price of \$2.15 per share, plus transaction costs of \$0.5 million, for a total \$6.3 million under the SIB and 1,585,336 common shares at an average purchase price of \$1.89 per share totaling \$3.0 million under the NCIB.

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## OFF-BALANCE SHEET ARRANGEMENTS

As at September 30, 2020 the company had a loan guarantee in the amount of 7.5 million yuan (approximately \$1.5 million) for 50% of a bank loan to XPCT representing the Company's proportionate interest in this entity.

## RELATED PARTY TRANSACTIONS

### Subsidiaries

The interim condensed consolidated financial statements include the accounts of Quarterhill Inc. and its wholly-owned subsidiaries. Balances and transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this section.

### Investment in Joint Venture

Investment in Joint Venture comprises a a 50% interest, held by the Company's IRD subsidiary, in XPCT, an ITS products and manufacturing service provider in China. IRD had sales of \$nil during the three and nine months ended September 30, 2020 (2019 - \$nil and \$56). At September 30, 2020 accounts receivable from XPCT was \$13 (December 31, 2019 - \$33).

### Key management personnel

Key management personnel are Quarterhill Inc.'s President & Chief Executive Officer, Chief Financial Officer and Senior Vice-President, General Counsel & Corporate Secretary and the Chief Executive Officers of each of International Road Dynamics Inc. and Wi-LAN Inc. Other related parties are close family members of the key management personnel and entities controlled by key management personnel. Key management personnel compensation expense for the three and nine months ended September 30, 2020 was \$966, and \$1,831 (2019 - \$873 and \$2,062).

## PROPOSED TRANSACTIONS

There are no proposed transactions.

## CRITICAL ESTIMATES

Key areas involving estimation, uncertainty and critical judgments include the following:

### Revenue recognition

Contract revenue, contract costs, contract liabilities and contract assets relating to the Intelligent Systems segment are based on estimates and judgments used in determining the progress of a contract. Estimates include amounts derived to measure the progress of the contract. Progress towards completion is measured by comparing the actual costs incurred to the total estimated costs for the contract. In determining the estimated costs to complete the contracts, assumptions and estimates are required to evaluate issues related to schedule, material and labour costs, changes in contract scope and subcontractor costs. Due to the nature of project contracts, estimates may change significantly between accounting periods. Changes in estimates are reflected in the period in which the circumstances that gave rise to the change became known and affect our revenue, contracts assets, and contract liabilities.

### Leases

Management uses judgment in determining whether a contract contains a lease, the interest used to discount the present value of fixed payments in accounting for the lease liability and corresponding right-of-use asset, and in determining whether it is likely that a lease term will be extended.

### Asset Impairments and Impairment Reversals

Quarterhill's estimate of the recoverable amount for the purpose of impairment testing requires management to make assumptions regarding estimates of the present value of future cash flows including growth opportunities, economic risk, and the discount rate. These same assumptions are also used when assessing recoverability of impairments previously recognized.

### Other

Other estimates and assumptions are made in determining the recoverability of financial assets and equity investments, accounting for income tax and the recoverability of deferred tax assets, and determination of indicators of impairment for non-financial assets as well as the determination for indicators of recoverability for assets for which an impairment was previously recognized.

## CONVERSION TO INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS)

As a result of the de-listing of the Common Shares from the Nasdaq, Quarterhill's financial statements are now prepared in accordance with IFRS as issued by the IASB. Since the current year's interim condensed consolidated financial statements represent our first presentation of its results and financial position under IFRS, they were prepared in accordance with IAS 34, "Interim Financial Reporting" and IFRS 1, "First-Time Adoption of IFRS." Subject to certain transition elections, we have consistently applied the same accounting policies in our opening IFRS statement of financial position at January 1, 2019, and throughout all periods presented as if these policies had always been in effect.

## FUTURE ACCOUNTING PRONOUNCEMENTS

Listed below are the standard, amendments, and interpretations that we reasonably expect to be applicable to Quarterhill at a future date and that we intend to adopt when they become effective.

### Classification of Liabilities as Current or Non-current (Amendments to IAS 1)

In January 2020, the IASB issued amendments to IAS 1, Presentation of Financial Statements to clarify that the classification of liabilities as current or non-current should be based on rights that are in existence at the end of the reporting period and is unaffected by expectations about whether or not an entity will exercise their right to defer settlement of a liability. The amendments further clarify requirements for classifying liabilities an entity will or may settle by issuing its own equity instruments. These amendments are effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The adoption of these amendments is not expected to have a significant impact on the consolidated financial statements.

### COVID-19 Related Rent Concessions (Amendment to IFRS 16)

IFRS 16 *Leases* has been revised to incorporate an amendment issued by the IASB in May 2020. The amendment permits lessees not to assess whether particular COVID-19 related rent concessions are lease modifications and, instead, account for those rent concessions as if they were not lease modifications. In addition, the amendment to IFRS 16 provides specific disclosure requirements regarding COVID-19 related rent concessions. The amendment is effective for annual reporting periods beginning on or after June 1, 2020. Earlier application is permitted. The Company does not expect the adoption of these amendments to have any impact on the consolidated financial statements.

### Onerous Contracts - Cost of Fulfilling a Contract (Amendments to IAS 37)

IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* has been revised to incorporate amendments issued by the IASB in May 2020. The amendments specify which costs an entity includes in determining the costs of fulfilling a contract for the purpose of assessing whether the contract is onerous. The amendments are effective for annual reporting periods beginning on or after January 1, 2022. Earlier application is permitted. The Company is currently assessing the impact of these amendments.

### Interest Rate Benchmark Reform - Phase 2 (Amendments to IFRS 9, IAS 30, IFRS 7, IFRS 4 and IFRS 16)

IFRS 9 *Financial Instruments*, IAS 39 *Financial Instruments: Disclosure*, IFRS 4 *Insurance Contracts* and IFRS 16 *Leases* have been revised to incorporate amendments issued by the IASB in August 2020. The amendments provide relief to accounting for the modifications required by the interest rate benchmark reform and hedge accounting. In addition, the amendments to IFRS 7 require additional disclosure related to interest rate benchmark reform. The amendments are effective for annual periods beginning on or after January 1, 2021. Earlier application is permitted. The Company is currently assessing the impact of these amendments.

## RISKS AND UNCERTAINTIES

Quarterhill and its operating subsidiaries operate in ever-changing business and competitive economic environments that expose it to a number of risks and uncertainties. This MD&A is qualified in its entirety by the risk factors described in our AIF. The risks and uncertainties discussed in greater detail under the heading "Risk Factors" in our

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AIF are not, however, the only risks we face. We may also be subject to additional risks and uncertainties that are currently unknown or not currently deemed material to our respective business operations. If any of the risks or uncertainties we and our operating subsidiaries face were to occur, they could materially affect our future operating results and could cause actual events to differ materially from those which we expect or that we have described in our forward-looking statements.

In addition to items identified in the AIF, we may be exposed to other risks as follows:

**Credit Risk**

Credit risk is the risk of financial loss to Quarterhill if a licensee or counter-party to a financial instrument fails to meet its contractual obligations. Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments, accounts receivable, and foreign exchange forward contracts.

Our cash and cash equivalents and short-term investments consist primarily of deposit investments that are held primarily with Canadian chartered banks. Management does not expect any counter-parties to fail to meet their obligations.

We recognize a loss allowance provision using the simplified approach based on lifetime expected credit losses. Our exposure to credit risk with our accounts receivable from customers is influenced mainly by the individual characteristics of each customer. Quarterhill's customers are for the most part, large multinational companies or government organizations which do not have a history of non-payment. Credit risk from accounts receivable encompasses the default risk of our customers. Prior to entering into transactions with new customers, we assess the risk of default associated with the particular customer. In addition, on an ongoing basis, management monitors the level of accounts receivable attributable to each customer and the length of time taken for amounts to be settled and where necessary, takes appropriate action to follow up on those balances considered overdue. We have had no significant bad debts for any periods presented.

None of the amounts outstanding have been challenged by the respective counterparties and we continue to conduct business with them on an ongoing basis. Accordingly, management has no reason to believe that these balances are not fully collectable in the future.

Quarterhill reviews financial assets on an ongoing basis with the objective of identifying potential matters which could delay the collection of funds at an early stage. Once items are identified as being past due, contact is made with the respective customer to determine the reason for the delay in payment and to establish an agreement to rectify the breach of contractual terms.

**Liquidity Risk**

Liquidity risk is the risk that we will not be able to meet our financial obligations as they fall due. Our objective in managing liquidity risk is to ensure that we have sufficient liquidity available to meet our liabilities when due. We manage our liquidity needs through various sources including cash generated through operations, cash reserves, various revolving credit facilities, and the issuance of Common Shares. At September 30, 2020, we had cash and cash equivalents and short-term investments of \$129,679.

**Currency Risk**

Portions of Quarterhill's portfolio companies' respective revenues and operating expenses are denominated in Canadian dollars, Indian rupees, Chilean pesos, Euros, and Chinese Yuan. Because Quarterhill's functional currency is in US dollars, our operating results are subject to changes in the exchange rate of the foreign currencies (primarily Canadian dollar) relative to the US dollar. Any decrease in the value of the Canadian dollar relative to the US dollar has an unfavorable impact on Canadian dollar denominated revenues and a favorable impact on Canadian dollar denominated operating expenses. Approximately 7.1% of our cash and cash equivalents and short-term investments are denominated in Canadian dollars and are subject to changes in the exchange rate of the Canadian dollar relative to the US dollar.

We may manage the risk associated with foreign exchange rate fluctuations by, from time to time, entering into foreign exchange forward contracts and engaging in other hedging strategies. To the extent Quarterhill engages in risk management activities related to foreign exchange rates, we may be subject to credit risks associated with the counterparties with whom we contract.

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Quarterhill's objective in obtaining foreign exchange forward contracts is to manage our risk and exposure to currency rate fluctuations related primarily to future cash inflows and outflows of Canadian dollars. We do not use foreign exchange forward contracts for speculative or trading purposes. For the three months ended September 30, 2020 we did not hold any foreign exchange forward contracts.

### **The COVID-19 Pandemic**

Since the onset of the COVID-19 Pandemic and the impacts of this crisis on the global economy, our businesses continue to evolve as we adapt to manage, operate, and sustain these businesses during these uncertain times.

Many countries in which we operate remain in COVID-19-related lockdowns of some degree and/or have imposed restrictions on non-essential business activities. As a result, each of our business segments has undertaken a number of steps to protect their employees while continuing their respective business operations. Throughout the past quarter, we have continued to employ proactive measures including closing offices, making provision for employees working from home, eliminating travel and closely following the guidelines issued by health and regulatory authorities. Over the past quarter, our human resource policies have evolved to respond to questions or concerns from our employees while continuing to explore opportunities to return to "in office" work environments. As a result of our proactive measures, our portfolio companies remain in full operation and continue to execute on the delivery of existing customer mandates, while also working to build and sustain business pipelines and advance new opportunities through their respective sales cycles.

While we are not immune to the impacts of the COVID-19 Pandemic, it appears that our businesses may have been less affected than other companies. The majority of the work within each portfolio company remains ongoing, and in the case of the Intelligent Transportation Systems business segment, certain of IRD's work has been deemed "essential" by applicable governing authorities. There remains some risk, however, that certain project work or license sales will be deferred or restricted and new orders delayed, particularly in jurisdictions outside of Canada and the United States. In addition, we are experiencing some work inefficiencies due mainly to travel restrictions and also some delay in supply chain deliveries.

Diversification is central to Quarterhill's business model and, as such, revenues are not highly concentrated within any geography, business, or client base. During this period of uncertainty, we are prudently managing costs and safeguarding the strength of our balance sheet to support the resiliency of our business.

All risk factors should be considered carefully and readers should not place undue reliance on our forward-looking statements and forward-looking information. Any of the matters described under this "Risks and Uncertainties" section could have a material adverse effect on our businesses, results of operations and financial condition, in which case the trading price of the Common Shares could decline and a holder of Common Shares could lose all or a part of their investment. Please also refer to the "Cautionary Note Regarding Forward-Looking Statements" section of this MD&A.

## **DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROL OVER FINANCIAL REPORTING**

Our Chief Executive Officer and Chief Financial Officer have designed or caused to be designed under their supervision, disclosure controls and procedures which provide reasonable assurance that material information regarding Quarterhill is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer in a timely manner.

In addition, our Chief Executive Officer and Chief Financial Officer have designed or caused to be designed under their supervision internal controls over financial reporting ("ICFR") to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements. The control framework used to design our ICFR is the "Internal Control - Integrated Framework (2013)" published by the Committee of Sponsoring Organizations of the Treadway Commission.

Our Chief Executive Officer and Chief Financial Officer have evaluated, or caused to be evaluated under their supervision, whether or not there were changes to our ICFR during the period ended December 31, 2019 that have

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materially affected, or that are reasonably likely to materially affect our ICFR. No such changes were identified through their evaluation.

There were no changes to our ICFR during the three months ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, our ICFR.

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

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