

Management's Discussion and Analysis of Financial Condition and Results of Operations

For the three and nine months ended September 30, 2017 and 2016

November 8, 2017

---

---

## CONTENTS

Introduction	1
Cautionary Note Regarding Forward-Looking Statements	2
Non-GAAP Disclosures	2
Description of Our Business	3
Risks and Uncertainties	5
Business Combinations	17
Overall Performance	20
Segmented Results	26
Selected Consolidated Quarterly Results	33
Capital and Liquidity	34
Outstanding Common Share Data	35
Off-Balance Sheet Arrangements	35
Proposed Transactions	36
Critical Accounting Policies, Including Initial Adoption of Policies, and Critical Estimates	36
Disclosure Controls and Procedures	40
Management's Report on Internal Controls Over Financial Reporting	41
Changes in Internal Controls	41

---

## INTRODUCTION

This Management's Discussion and Analysis of Quarterhill Inc. (this "MD&A") is dated November 8, 2017.

On April 17, 2017, Wi-LAN Inc. announced that our Board of Directors (the "Board") had approved a plan to transform the company into a growth-oriented diversified holding company by acquiring businesses in the Industrial "Internet of Things" market that will operate alongside our existing intellectual property licensing operations. As part of this transformation, Wi-LAN Inc. changed its name to Quarterhill Inc. on June 1, 2017 and began trading under the symbol "QTRH" on both the Toronto Stock Exchange (the "TSX") and the Nasdaq Global Select Market (the "Nasdaq") on June 5, 2017.

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.

Quarterhill's growth strategy focuses on acquiring technology companies in the Industrial Internet of Things market across multiple verticals.

This MD&A should be read in conjunction with Quarterhill's unaudited condensed consolidated interim financial statements and the notes thereto for the three and nine month periods ended September 30, 2017 as well as with Wi-LAN Inc.'s audited consolidated financial statements and the notes thereto for the year ended December 31, 2016, which have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP") and United States Securities and Exchange Commission ("SEC") regulations for interim and annual financial information as applicable.

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

We have prepared this MD&A with reference to National Instrument 51-102 - Continuous Disclosure Obligations of the Canadian Securities Administrators. Under the U.S./Canada Multijurisdictional Disclosure System, we are permitted to prepare this MD&A in accordance with Canadian disclosure requirements which may differ from U.S. disclosure requirements. This MD&A provides information for the three and nine month periods ended September 30, 2017 and up to and including November 8, 2017. 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, 2016, 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 Form 40-F can be found on the SEC's EDGAR website at [www.sec.gov](http://www.sec.gov).

Our management is responsible for establishing appropriate information systems, procedures and controls to ensure that all financial information disclosed externally, including 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 of Directors' Audit Committee (the "Audit Committee") and, finally, by our Board of Directors as a whole.

---

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements and forward-looking information within the meaning of the United States Private Securities Litigation Reform Act of 1995 and other applicable United States and 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.

## NON-GAAP DISCLOSURES

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 Quarterhill management, to any decision-making based on Quarterhill's performance. **This section defines, quantifies and analyzes the key performance indicators used, or to be used, by Quarterhill management and referred to elsewhere in this MD&A, which are not recognized under GAAP and have no standardized meaning prescribed by GAAP. 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-GAAP term "**Adjusted EBITDA**" to mean net income from continuing operations before: (i) income taxes; (ii) finance expense or income; (iii) amortization of intangibles; (iv) special charges; (v) depreciation of property, plant and equipment; (vi) effects of deleted deferred revenue; (vii) the effects of fair value step up in inventory acquired, and (viii) stock based compensation. Adjusted EBITDA is used by Quarterhill 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.

---

## DESCRIPTION OF OUR BUSINESS

Quarterhill is a Canadian company with its common shares (“**Common Shares**”) listed under the symbol “QTRH” on each of the TSX and the Nasdaq.

We are developing a portfolio primarily consisting of established businesses having histories of generating cash flows from their operations in the “Technology”, “Mobility”, and “Factory” vertical segments of the Industrial “Internet of Things” market, all as more fully discussed below in this MD&A. We are also targeting a fourth Internet of Things vertical which we are calling “City” and which would represent companies that operate in such industries as building controls, emergency response, waste water treatment and other similar businesses. Our aim is to build a consistently profitable company with a diversified investment base and global market presence within our vertical segments to increase shareholder value by emphasizing the importance of recurring revenue streams and the predictability of operating results. We intend to achieve these objectives through a combination of organic growth and acquisitions.

Together with the management teams of our operating subsidiaries, we are working to identify acquisitions to facilitate our entry into new markets or to increase our existing product or service offerings within our vertical segments. We are actively looking to acquire businesses that operate within the Industrial “Internet of Things” market in our vertical segments, focusing on businesses that have:

- a broad range of products and services focused on capturing, analyzing and interpreting data;
- a demonstrated history of growing sustainable cash flow;
- a capable and experienced, growth-oriented management team;
- a significant market share in their business areas with strong customer relationships;
- a sustainable competitive advantage; and
- an ability to grow organically and through additional acquisitions.

### *“Internet of Things”*

The “Internet of Things” has been described as the “third wave” of the Internet age, or the “ubiquitous computing” age.

The “first wave” of the Internet age was born in the desktop computing era and characterized by static web pages that were revolutionary in connecting people around the world and disseminating information. Successful business platforms of the first wave created and leveraged the “connectivity” of the Internet (such as Cisco, AOL and Microsoft).

The “second wave” of the Internet era moved from building connectivity in the first wave to empowering users to access that connectivity. This second wave also witnessed the move from desktop to mobile computing (mobile phones, tablets), enabling real-time social networking platforms such as Facebook, Twitter, YouTube, Instagram, etc., and the first Cloud-based business applications accessible across a multitude of mobile and stationary devices such as Salesforce.

The “third wave” of the Internet era, the Internet of Things, utilizes many of the technologies from the first two waves (infrastructure, connectivity, Cloud) to create the “ubiquitous computing” age. This third wave is witnessing the interconnection of devices without human intervention, particularly devices with sensors, or even standalone sensors, monitoring specific data points. These “intelligent” devices (such as modern automobile tires) perform traditional functions, but also allow for the communication of data (such as by way of RFID tags embedded in automobile tires).

Within the Internet of Things, data will be available between devices via the Internet or in the Cloud to anyone who can develop platforms to exploit this data, such as parking space management, traffic monitoring, maintenance monitoring, collision avoidance, inventory control, optimized energy consumption, etc. The practically infinite possibilities, limited only by our imaginations, are being realized today and will be the focus of business for the next several decades.

---

Operating subsidiaries in our Technology, Mobility, and Factory vertical segments are working to bring together intelligent devices, data collection, data analytics and people in networks that can and will monitor, collect, exchange, analyze and deliver valuable information to drive smarter, faster, more efficient and better business decisions for individuals and enterprises all over the world.

At the date of this MD&A, we have investments in three of our four targeted vertical segments.

#### *Technology Segment*

Our Technology segment includes companies that count technology licensing as their principal business activity. We have an investment in Wi-LAN Inc. (“**WiLAN**”), a leading patent licensing company, based in Ottawa, Canada with offices in Orange County and Carlsbad, California. 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. WiLAN also works with patent inventors and owners to unlock the value trapped in patents that their inventors or owners have been unable to obtain, by developing and licensing their patents while sharing with those inventors and assignees both any revenues generated by these patents and much of the financial risk associated with licensing these patents.

Current patent portfolios held by WiLAN include patents relating to 3D television technologies, automotive headlight assemblies, phased loop semiconductor technology, microcontrollers applicable to safety-critical aerospace, semiconductor manufacturing and packaging technologies, medical, industrial and automotive applications, computer gaming, medical stent technologies, intelligent personal assistant technologies, CMOS image sensors, enhanced image processing, streaming video technologies, building automation, non-volatile Flash memory, other memory technologies, semiconductor clocking technologies, smart meter monitoring, LED lighting technologies and many other technologies.

WiLAN’s agreements licensing its patents 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. Running royalty-based licensees generally provide WiLAN with quarterly or semi-annual royalty reports which are typically received after the period in which the underlying sales occurred.

WiLAN’s employees have unique skill sets and proven abilities to conclude license agreements. This is important because the strength of asserted patents is only part of what is needed to derive substantial revenues from them; human expertise in the relevant markets, in patent portfolio development, and in patent licensing and litigation are as crucial as strong patents.

#### *Mobility Segment*

Our Mobility segment includes companies providing systems and services focused on the interconnection of devices for mobile applications. Our first investment in this segment is International Road Dynamics Inc. (“**IRD**”) headquartered in Saskatoon, Canada, one of the world’s leading providers of integrated systems and solutions for the global Intelligent Transportation Systems (“**ITS**”) industry. The ITS industry is focused on improving the mobility, 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-Motion” (“**WIM**”) 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, highway toll collection systems, as well as for vehicle fleet management systems around the world. IRD is a leading provider of “Weigh-In-Motion” systems worldwide.

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 integrated transportation systems, services and products. Integrated 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. IRD also sells, integrates and maintains “off-the-shelf” products, typically equipment such as machine vision for vehicle identification, automated number plate recognition, automatic vehicle identification readers and transponders and other ITS technologies.

#### *Factory Segment*

We consider companies focused on business operations optimization, predictive maintenance, inventory optimization and health and safety in production environments as operating in a “factory” environment and we classify our related investments in our Factory segment. Our first investment in this segment is VIZIYA Corp. (“VIZIYA”) based in Hamilton, Canada, a software company providing Enterprise Asset Management (“EAM”) software solutions to asset intensive industries worldwide through its presence in Australia, Europe, the Middle East and South Africa. VIZIYA has created software solutions that enhance each step of a customer’s work management process, to help customers measure the results of their initiatives, particularly focused on asset criticality, urgency, and compliance to ensure customers implement their asset strategies.

VIZIYA was formed in 2007 by industry veterans with both maintenance and software expertise and its first product – the WorkAlign Scheduler – was designed as a collaborative partnership with Barrick Gold. Through its 2013 acquisition of Global PTM, a leading U.S. EAM consultant, VIZIYA has built a portfolio of EAM products and services purpose-built for maintenance professionals. VIZIYA’s standard accessory maintenance solutions are integrated with all major enterprise resource planning systems including Oracle E-Business, Oracle JDE, SAP, IBM Maximo and Infor.

## **RISKS AND UNCERTAINTIES**

Quarterhill and our operating subsidiaries operate in ever-changing business and competitive economic environments that expose us to a number of risks and uncertainties, including the risk factors described below. The risks and uncertainties described below 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.

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.

This MD&A is qualified in its entirety by the risk factors described below.

*We may not be able to execute our corporate strategy.*

Our strategic priorities are generally described on page 3 of this MD&A and have recently changed with our transition into a growth-oriented diversified holding company acquiring businesses in the Industrial “Internet of Things” market operating alongside our existing intellectual property licensing operations. As with any undertaking like Quarterhill and our transition, there is inherent risk associated with the successful implementation and execution of our strategic priorities. If we are unable to successfully implement and execute our strategic priorities, there could be a material and adverse effect on our businesses, results of operations and financial condition.

*We may not be able to sustain profitability in the future. If we do not maintain profits our share price may decline.*

As we continue to grow our businesses, our operating expenses and capital expenditures may increase, and as a result, we will need to generate additional revenue to maintain profitability. If our revenues decline, we may not be able to sustain profitability because many of our expenses are fixed in the short term and cannot be easily or quickly reduced. A failure to maintain profitability could materially and adversely affect our businesses.

*We may engage in acquisitions or other strategic transactions or make investments that could result in significant changes or management disruption and fail to enhance shareholder value.*

As part of our strategy, we have sought and will continue to seek acquisition candidates relating to, or complementary to, our current strategic focus. Ultimately, any acquisitions would be accompanied by risks.

We cannot be certain that we will be able to identify suitable acquisition candidates that are available for purchase at reasonable prices and we may fail to select appropriate acquisition targets. Even if we can identify appropriate acquisition candidates, we may be unable to consummate an acquisition on suitable terms. We have and will likely continue to have competition for acquisition candidates from other parties including those that have greater resources or are willing to pay higher purchase prices. When evaluating an acquisition opportunity, we may not correctly identify the risks and costs inherent in the business that we are acquiring. If we were to proceed with one or more significant future acquisitions in which the consideration consisted of cash, a substantial portion of our available cash resources may be used or we may have to seek additional financing to complete such acquisitions.

We may have difficulty integrating and assimilating the operations and personnel of any acquired companies, realizing anticipated synergies and maximizing the financial and strategic position of the combined enterprise, and maintaining uniform standards, policies and controls across the organization. Any integration of the acquired business or assets may disrupt our ongoing businesses and our relationships with employees, suppliers, contractors and other stakeholders. The diversion of management’s time and attention during the transaction and subsequent integration may be significant.

If we choose to raise debt capital to finance any acquisition, our leverage will be increased. If we choose to use equity as consideration for any acquisition, existing shareholders may suffer dilution. Alternatively, we may choose to finance any acquisition with our existing resources.

As a part of our acquisition strategy, we may also utilize a strategy where a portion of the purchase price is paid at closing, while the remaining portion of the purchase price is subject to the target successfully completing performance metrics within an earn-out period after the closing of the acquisition. These potential earn-out payments are contingent payments and while we believe we will have the required funds to satisfy these contingent payments, if earned, there can be no assurance that we will have the required funds at the applicable point in time. If we are unable to satisfy these contingent payments, this may have a material adverse impact on us and we may be exposed to litigation.

We cannot assure that any acquisitions or business arrangements completed will ultimately benefit our business. Furthermore, there can be no assurance that we would be successful in overcoming the risks identified above or any other problems encountered in connection with such acquisitions.

---

Future acquisitions are accompanied by the risk that the obligations and liabilities of an acquired company may not be adequately reflected in the historical financial statements of such company and the risk that such historical financial statements may be based on assumptions, which are incorrect or inconsistent with our assumptions or approach to accounting policies. We may not be able to manage such expansion effectively and any failure to do so could lead to a disruption in our business, a loss of customers and revenue, and increased expenses.

*We may acquire contingent liabilities through acquisitions that could adversely affect our operating results.*

We may acquire contingent liabilities in connection with acquisitions we have completed, which may be material. Although management uses its best efforts to estimate the risks associated with these contingent liabilities and the likelihood that they will materialize, their estimates could differ materially from the liabilities actually incurred.

*Our operating structure may expose us to unique risks.*

We are a holding company that conducts operations through Canadian and foreign subsidiaries, and a significant portion of our assets are held in such entities. Accordingly, any limitation on the transfer of cash or other assets between the parent corporation and such entities, or among such entities, could restrict our ability to fund our operations efficiently. Any such limitations, or the perception that such limitations may exist now or in the future, could have an adverse impact on our valuation and stock price.

*We need qualified personnel to manage and operate our various businesses.*

In our decentralized business model, we need qualified and competent management to direct day-to-day business activities of our operating subsidiaries. Our operating subsidiaries also need qualified and competent personnel in executing their business plans and serving their customers, suppliers and other stakeholders. Changes in demographics, training requirements and the unavailability of qualified personnel could negatively impact one or more of our operating subsidiaries' abilities to meet demands of customers to supply goods and services. Recruiting and retaining qualified personnel are important to all our operations. Although we believe we have adequate personnel for our current business environment, unpredictable increases in demand for goods and services may exacerbate the risk of not having sufficient numbers of trained personnel, which could have a negative impact on our operating results, financial condition and liquidity.

*Our ability to recruit and retain management and other qualified personnel is crucial to our business operations.*

Our future success depends on the continued efforts and abilities of our senior management team. Their skills, experience and industry contacts significantly benefit us. Although we have employment and non-competition agreements with members of our senior management team, they or our other key employees may not choose to remain employed by us. If we lose the services of one or more of these individuals, or if one or more of them decide to join a competitor or otherwise compete directly or indirectly with us, our business, operating results, and financial condition could be harmed.

Our success is also highly dependent on our continuing ability to identify, hire, train, motivate and retain highly qualified management personnel. Competition for such personnel can be intense and we cannot provide assurance that we will be able to attract or retain highly qualified personnel in the future.

Stock options can comprise an important component of our compensation of key employees, and if the market price of the Common Shares declines, it may be difficult to recruit and retain key employees due to the related decline in value of any options to purchase Common Shares. In addition, pursuant to the rules of the TSX, our unallocated options require periodic approval from shareholders to continue to be available for grant under our Share Option Plan. TSX rules and/or the size of our option pool may limit our ability to use equity incentives to recruit and retain key employees.

Another important component of our compensation of our key employees is restricted stock units, which are rights granted to employees and Board members that, upon vesting over three years, pay out the cash market value of Common

Shares equal to the number of vested restricted stock units on the date of vesting. Because the value of restricted stock units is tied to the market price of Common Shares, as the market price of Common Shares declines, restricted stock units hold less and less value. Consequently, the attractiveness of restricted stock units to current or prospective employees may also be significantly reduced if the market price of Common Shares declines.

Our inability to attract and retain the necessary management personnel may adversely affect our future growth and profitability. We may need to increase the level of compensation paid to existing or new employees to a degree that our operating expenses could be materially increased. We do not currently maintain corporate life insurance policies on key employees.

*Increased pressures on our existing personnel may create risk to our organization.*

As we transition into our new strategic priorities, the growth and implementation of our new business plan have placed, and may continue to place, a significant strain on our managerial, administrative, operational, financial and other resources. We intend to continue to further expand our overall businesses, headcount and operations. Operating a North American organization and managing a geographically dispersed workforce will require substantial management effort and may require significant additional investment in our infrastructure. We will be required to continue to improve our operational, financial and management controls and our reporting procedures, which we may not be able to do effectively. As such, we may be unable to manage our expenses effectively in the future, which may negatively impact our gross profit or operating expenses in any particular period.

*We may suffer from reputational risk.*

Damage to our reputation can be the result of the actual or perceived occurrence of any number of events, and could include any negative publicity, whether true or not. The increased usage of social media and other web-based tools used to generate, publish and discuss user-generated content and to connect with other users have made it increasingly easier for individuals and groups to communicate and share opinions and views relating to us, our operating subsidiaries and our respective activities, whether true or not. Reputation loss may result in decreased customer confidence and an impediment to our and our operating subsidiaries' overall abilities to advance our respective products and services with customers, thereby having a material adverse impact on our businesses, financial performance, financial condition, cash flows and growth prospects.

*Competition and technology may erode our operating businesses and result in lower earnings.*

Each of our operating businesses faces intense competitive pressures within the markets in which they operate. While we manage our businesses with the objective of achieving long-term sustainable growth by developing and strengthening competitive advantages, many factors, including market and technology changes, may erode or prevent the strengthening of competitive advantages. Accordingly, future operating results will depend to some degree on whether our operating subsidiaries are successful in protecting or enhancing their competitive advantages. If our operating businesses are unsuccessful in these efforts, our periodic operating results in the future may decline.

*Deterioration of general economic conditions may significantly reduce our operating earnings and impair our ability to access capital markets at a reasonable cost.*

Our operating subsidiaries are subject to normal economic cycles affecting the economy in general or the industries in which they operate. If the economy deteriorates for a prolonged period, one or more of our significant operations could be materially harmed. In addition, we may utilize debt as a component of our or our operating subsidiaries' respective capital structures. This will depend on having access to borrowed funds through the capital markets at reasonable rates. If access to the capital markets is restricted or the cost of funding increases, these operations could be adversely affected.

*Our operating subsidiaries may be faced with intellectual property claims.*

Certain third parties have been issued patents and may have filed patent applications or may obtain additional patents and proprietary rights for technologies similar to those used by our operating subsidiaries in their respective products,

services and technologies. Some of these patents may grant very broad protection to their owners. We cannot determine with certainty whether any existing third-party patents or the issuance of any third-party patents would require any of our operating subsidiaries to alter their respective technologies, obtain licenses or cease certain activities. We or our operating subsidiaries may become subject to claims by third parties alleging our respective technologies infringe their property rights. In addition, certain of our operating subsidiaries may provide their customers with qualified indemnities against the infringement of third-party intellectual property rights which may expose these subsidiaries to vicarious liabilities from any claims made against their customers.

*Misappropriation of our operating subsidiaries' intellectual property could place them at a competitive disadvantage.*

Our operating subsidiaries' intellectual property is important to their and our success. Our operating subsidiaries rely on a combination of patent protection, copyrights, trademarks, trade secrets, license agreements, non-disclosure agreements and other contractual agreements to protect their intellectual property. Third parties may attempt to copy aspects of our operating subsidiaries' products, services and technology or obtain information our operating subsidiaries regard as proprietary without their authorization. If our operating subsidiaries are unable to protect their intellectual property against unauthorized use by others, it could have an adverse effect on their competitive position, businesses and results of operations. In addition, our operating businesses could be required to spend significant funds and management resources could be diverted to defend their rights, which could significantly disrupt their operations.

*We may be faced with litigation risks from time to time.*

We and our operating subsidiaries are, from time to time, involved in various claims, legal proceedings and complaints arising in the ordinary course of business, including, but not limited to, intellectual property disputes. We cannot reasonably predict the likelihood or outcome of these actions. Adverse outcomes in some or any of these claims may result in significant monetary damages or injunctive relief that could adversely affect our or our operating subsidiaries' ability to conduct our respective businesses. Further, if we are unable to resolve these disputes favourably, it may have a material adverse impact on our financial performance, cash flow and results of operations.

*Our information technology faces cyber security and other information technology-related risks.*

We rely on information technology in virtually all aspects of our businesses. A significant disruption or failure of our information technology systems could result in service interruptions, safety failures, security violations, regulatory compliance failures, an inability to protect information and assets against intruders, and other operational difficulties. Attacks perpetrated against our information systems could result in loss of assets and critical information, and exposes us to remediation costs and reputational damage.

Although we have taken reasonable steps intended to mitigate these risks, a significant disruption or cyber intrusion could lead to misappropriation of assets or data corruption and could adversely affect our results of operations, financial condition and liquidity. Additionally, if we are unable to acquire or implement new technology, we may suffer a competitive disadvantage, which could also have an adverse effect on our results of operations, financial condition and liquidity.

Cyber attacks could further adversely affect our ability to operate facilities, information technology and business systems, or compromise confidential customer and employee information. Political, economic, social or financial market instability or damage to or interference with our operating assets, or our customers or suppliers may result in business interruptions, lost revenue, unstable markets, increased security and repair or other costs, any of which may materially adversely affect us in ways that cannot be predicted. Any of these risks could materially affect our consolidated financial results. Furthermore, instability in the financial markets resulting from terrorism, sustained or significant cyber attacks, or war could also materially adversely affect our ability to raise capital.

*Our operating subsidiaries are subject to additional risks and uncertainties.*

In addition to the risks and uncertainties to which we and our business are subject, our operating subsidiaries are also subject to additional risks and uncertainties that are unique to their specific industries and/or businesses, any of which could have a material adverse effect on our businesses, results of operations and financial condition.

As a non-exhaustive list of examples relating to our current operating subsidiaries:

- with respect to WiLAN:
  - licensing patents can take an extremely long time and WiLAN is reliant on royalty payments under such licenses to generate revenues, the failure to generate which could adversely affect its operating results and cash flows;
  - WiLAN may be required to establish the enforceability of its patents in court or through administrative proceedings to obtain material licensing revenues, which may result in certain patents being limited in scope, found to be invalid, unenforceable and/or not infringed by any specific third-party, any of which could result in the loss of specific patent assets and delays in generating revenues;
  - WiLAN's industry is subject to increased regulatory scrutiny, political commentary and related governmental proceedings, often resulting in changes to patent or other applicable laws or in the interpretation or application of those laws, which could cause delays and difficulties in entering into license agreements and generating revenues; and
  - WiLAN needs to acquire new patents to grow its business but may not be able to compete against others to acquire any specific patents and any such acquisition can be time consuming, complex and costly, all of which could adversely affect WiLAN's operating results;
- with respect to IRD:
  - IRD's trade receivables and unbilled revenues from government and private industry customers are subject to credit and non-payment risk with all private industry accounts subject to internal credit review and approval to minimize risk of non-payment and, where invoiced amounts are not secured by letter of credit, IRD generally insures these amounts through Export Development Canada to the extent of 90% of the invoiced amount;
  - erroneous assumptions and/or estimates of project costs in the submission of tenders may result in an incorrect assessment of risks associated with any specific contract undertaken by IRD, which could result in a loss of or lower than anticipated gross margin for any such contract;
  - unsatisfactory performance by subcontractors engaged to complete various components of a contract could result in reduced profits on that contract and result in reputational risk to IRD; and
  - during economic recessions and/or as governments adjust their spending priorities for political reasons, transportation agencies around the world often reduce their spending to address the traffic monitoring and management issues for which IRD's products and services act as solutions, which could adversely affect IRD's operating results; and
- with respect to VIZIYA:
  - VIZIYA's products and services are highly technical and may contain undetected design flaws, errors, defects, security vulnerabilities and/or software bugs which could result in reputational risk to VIZIYA, lost revenue, diverted development resources and increased service costs, warranty claims and, potentially, litigation;
  - an inability to successfully and quickly develop, introduce and implement new products and services or to compete with new, disruptive product or service alternatives could reduce VIZIYA's market share and competitive position and could reduce its revenues; and
  - some of VIZIYA's products and services rely on or are implemented through third-party technologies and if integration or incompatibility issues arise with these technologies, or access to these technologies becomes

unavailable for any reason, VIZIYA's product and service development may be delayed, adversely affecting its market share, competitive position and revenues.

As noted, these examples of risks and uncertainties to which these operating subsidiaries may be subject are not intended to be exhaustive, but may provide readers of this MD&A with information that could influence their decision to purchase or sell Common Shares.

*Fluctuations in foreign exchange rates impact and may continue to impact our operating expenses, potentially adversely affecting financial results.*

Our functional currency is the U.S. dollar and we report our financial performance in U.S. dollars. Our operating results are subject to changes in the exchange rate of the U.S. dollar relative to the Canadian dollar. Any decrease in the value of the U.S. dollar relative to the Canadian dollar will have an unfavourable impact on Canadian denominated operating expenses. We may manage the risk associated with foreign exchange rate fluctuations by, from time to time, entering into forward foreign exchange contracts and engaging in other hedging strategies. If we engage in risk management activities related to foreign exchange rates, we may be subject to credit risks associated with the counterparties with whom we contract.

*Our quarterly revenue and operating results can be difficult to predict and can fluctuate substantially.*

Our revenue is difficult to forecast, is likely to fluctuate significantly and may not be indicative of our future performance from quarter to quarter. In addition, our operating results may not follow any past trends. The factors affecting our revenue and results, many of which are outside our control, include:

- competitive conditions in the various industries in which we and our operating subsidiaries conduct our respective businesses;
- the discretionary nature of purchase and budget cycles of our operating subsidiaries' customers and changes in their budgets for, and timing of, purchases;
- strategic decisions, such as mergers, acquisitions, divestitures, spin-offs, joint ventures, strategic investments or changes in business strategy; and
- general weakening of the economy resulting in a decrease in the overall demand for products and services or otherwise affecting capital investment levels of our operating subsidiaries' customers.

*Our goodwill and intangible assets are valued at an amount that is high relative to our total assets, and a write-off of our intangible assets would negatively affect our results of operations and total capitalization.*

Our total assets reflect substantial intangible assets, primarily patents, acquired intangible assets and goodwill. At September 30, 2017, acquired intangible assets and goodwill totaled \$82.4 million compared to \$267.7 million of shareholders' equity, and represented 25.4% of our total assets of \$323.9 million. The fair value of acquired intangibles will be systematically amortized to earnings over specified periods. The goodwill results from our acquisitions, representing the excess of cost over the fair value of the net assets we have acquired. We assess at least annually whether there has been an impairment in the value of our goodwill. If future operating performance at one or more of our operating subsidiaries were to fall significantly below current levels, if competing or alternative technologies emerge, if interest rates rise or if business valuations decline, we could incur a non-cash charge to operating earnings. Any determination requiring the write-off of a significant portion of goodwill or unamortized intangible assets would negatively affect our results of operations and total capitalization, the effect of which could be material.

*There can be no assurance as to the payment of future dividends.*

On June 3, 2009, we announced the Board had declared a cash dividend of CDN\$0.0125 per Common Share payable on August 5, 2009 to holders of record of Common Shares at the close of business on June 29, 2009. Similar dividends have been declared by the Board and paid each fiscal quarter since that date with the most recent such dividend declared in

---

the amount of CDN\$0.0125 per Common Share on November 8, 2017 and payable on January 5, 2018 to holders of record of Common Shares at the close of business on December 15, 2017.

Future dividend payments will be subject to an ongoing evaluation and approval by the Board on a quarterly basis. The decision as to the amount and timing of future dividends, if any, will be made by the Board considering our financial condition, capital requirements and growth plans, as well as other factors the Board may deem relevant, and there can be no assurance as to whether any such future dividends will be declared or, if declared, as to the amount and timing of the payment of any such future dividends.

*Our businesses could be negatively affected because of actions of activist shareholders.*

Publicly-traded companies have increasingly become subject to campaigns by investors seeking to advocate certain governance changes or corporate actions such as financial restructuring, special dividends, share repurchases or even sales of assets or the entire company. We could be subject to such shareholder activity or demands. Given the challenges we have encountered in our businesses in the past few years, recent changes to our governance and strategic focus may not satisfy such shareholders who may attempt to promote or effect further changes, or acquire control over us. Responding to proxy contests, media campaigns and other actions by activist shareholders, if required, will be costly and time-consuming, will disrupt our operations and would divert the attention of the Board and senior management from the pursuit of our business strategies, which could adversely affect our results of operations, financial condition and/or prospects. If individuals are elected to the Board with a specific agenda to increase short-term shareholder value, it may adversely affect or undermine our ability to effectively implement our plans. Perceived uncertainties as to our future direction resulting from shareholder activism could also result in the loss of potential business opportunities and may make it more difficult to attract and retain qualified personnel and business partners, to our detriment.

*The trading price of the Common Shares has been, and may continue to be, subject to large fluctuations.*

The Common Shares are listed on both the TSX and the Nasdaq. The trading price of the Common Shares has been, and may continue to be, subject to large fluctuations notwithstanding our potential success in creating revenues, cash flows or earnings and, therefore, the value of the Common Shares may also fluctuate significantly, which may result in losses to investors who have acquired or may acquire Common Shares.

The trading price of the Common Shares may increase or decrease in response to many events and factors, including:

- low trading volumes;
- actual or anticipated fluctuations in our results of operations;
- changes in estimates of our future results of operations by us or by securities analysts;
- announcements of material information; and
- other events and factors, including but not limited to the risk factors identified in this MD&A.

In addition, different liquidity levels, volume of trading, currencies and market conditions on the TSX and Nasdaq may result in different prevailing trading prices between these stock exchanges.

Because of any of these factors, the market price of the Common Shares at any time may not accurately reflect our long-term value.

Securities class action litigation often has been brought against companies following periods of volatility in the market price of their securities. We may in the future be the target of similar litigation. Securities litigation could result in substantial costs and damages and divert management's attention and resources, which could adversely affect our businesses. Any adverse determination in litigation against us could also subject us to significant liabilities.

---

*Our share repurchase program could increase the price volatility of the Common Shares and may be limited or terminated at any time which could result in a decline in the trading price of the Common Shares.*

On February 9, 2017, we announced that the Board had approved the adoption of a share repurchase program to purchase up to a maximum of 4,000,000 Common Shares (representing approximately 3.37% of the Common Shares outstanding at January 31, 2017) between February 13, 2017 and February 12, 2018 through a normal course issuer bid over the TSX. Under our previous normal course issuer bid, we repurchased 2,398,500 Common Shares for cancellation between February 11, 2016 and February 10, 2017.

The number of purchases of Common Shares under our normal course issuer bid will vary from time to time and are generally subject to management discretion, whether directly or under an automated share purchase plan established by us. The timing of repurchases under this program could affect the trading price of the Common Shares and their volatility. There can be no assurance that any repurchases will enhance shareholder value because the trading price of the Common Shares may decline below the prices at which we effected repurchases. Any failure to repurchase Common Shares may negatively impact our reputation and investor confidence, which may negatively impact the trading price of the Common Shares. Furthermore, we may engage in transactions that could result in repurchases under the program being reduced or suspended for a period of time and/or from time to time.

*As a foreign private issuer, we are subject to different U.S. securities laws and rules than a domestic U.S. issuer, resulting in different information publicly available to our shareholders.*

We are a “foreign private issuer” under applicable U.S. federal securities laws and, as such, we are not required to comply with all periodic disclosure and current reporting requirements of the U.S. Securities Exchange Act of 1934 and related rules and regulations. As a result, shareholders may not have the same information provided to shareholders of companies that are not foreign private issuers. For example, we do not file the same reports that U.S. domestic issuers file with the SEC, although we must file or furnish to the SEC the continuous disclosure documents we are required to file in Canada under Canadian securities laws. In addition, our officers and directors are exempt from the reporting and “short swing” profit recovery provisions of Section 16 of the U.S. Securities Exchange Act of 1934. Therefore, shareholders may not know on as timely a basis when our officers and directors purchase or sell their Common Shares and other securities, as the reporting deadlines under corresponding Canadian insider reporting requirements may be different. In addition, as a foreign private issuer, we are exempt from the proxy rules under the U.S. Securities Exchange Act of 1934.

*We could lose our foreign private issuer status in the future, which could result in significant additional costs and expenses.*

We could lose our foreign private issuer status in the future if a majority of the Common Shares are held in the U.S. and we fail to meet the additional requirements necessary to avoid loss of foreign private issuer status. The regulatory and compliance costs to us under U.S. securities laws as a U.S. domestic issuer may be significantly more than the costs incurred as a Canadian foreign private issuer eligible to use the multijurisdictional disclosure system adopted by the U.S. and Canada. If we cease to be a foreign private issuer, we would not be eligible to use the multijurisdictional disclosure system or applicable foreign issuer forms and would be required to file periodic and current reports and registration statements on U.S. domestic issuer forms, which are more detailed and extensive than the forms available to a foreign private issuer. In addition, we could lose the ability to rely upon exemptions from Nasdaq corporate governance requirements that are available to foreign private issuers.

*The financial reporting obligations of being a public company in the U.S. are expensive and time consuming, and place significant additional demands on management.*

The obligations of being a public company in the U.S. including, in particular, Section 404 of the U.S. Sarbanes-Oxley Act and the SEC rules and regulations implementing Section 404, to all of which we will be subject from our 2017 fiscal year onwards, require significant expenditures and place significant demands on our management. From the current fiscal year onwards, we will require an annual evaluation of our internal controls over financial reporting to be attested to by an independent auditing firm. If an independent auditing firm is unable to provide us with an attestation and an

---

unqualified report as to the effectiveness of our internal controls, investors could lose confidence in the reliability of our financial statements, which could result in a decrease in the value of the Common Shares.

*Compliance with changing regulation of corporate governance may result in additional expenses.*

Changing laws, regulations, and standards relating to corporate governance and public disclosure can create uncertainty for public companies. The costs required to comply with such evolving laws are difficult to predict. To maintain high standards of corporate governance and public disclosure, we intend to invest all reasonably necessary resources to comply with evolving standards. This investment may result in an unforeseen increase in general and administrative expenses and a diversion of management's time and attention from revenue-generating activities, which may harm our operating results.

*Changes in financial accounting or taxation standards, rules, practices or interpretation may cause adverse unexpected revenue and expense fluctuations which may impact our reported results of operations.*

We prepare our consolidated financial statements in accordance with U.S. generally accepted accounting principles. These principles are subject to interpretations by the SEC and various accounting bodies. We are also subject to various taxation rules in many jurisdictions which are generally complex, frequently changing and often ambiguous. Changes to taxation rules, changes to financial accounting standards such as the proposed convergence to international financial reporting standards, or any changes to the interpretations of these standards or rules may adversely affect our reported financial results or the way in which we conduct business. Recent accounting pronouncements and their estimated potential impact on our business are addressed in Note 2 - "Significant Accounting Policies" in the notes to our unaudited condensed consolidated interim financial statements for period ended September 30, 2017.

*Failure to maintain an effective system of internal controls may result in Quarterhill not being able to accurately report financial results or to prevent fraud.*

We require effective internal controls to provide reliable financial reporting and effectively prevent fraud. Any system of internal control over financial reporting, regardless of how well designed, operated and evaluated, can only provide reasonable, not absolute, assurance that its objectives have been, are being or will be met. We cannot be certain that material weaknesses or significant deficiencies in internal controls may not exist or can be discovered now or in the future. Although unlikely, any such weaknesses or deficiencies could result in misstatements of our financial statements, an inability to file timely periodic reports, a decline in share price and investor confidence, or other material impacts to our businesses, reputation, results of operations, financial condition or liquidity.

*An investor may be unable to bring actions or enforce judgments against us and certain of our directors and officers.*

Quarterhill is incorporated under the laws of Canada and our principal executive offices are located in Canada. A majority of our directors and officers and our independent public accounting firm reside principally outside the U.S. and all or a substantial portion of our assets and the assets of these persons are located outside the U.S. Consequently, it may not be possible for an investor to effect service of process within the U.S. on us or those persons. Furthermore, it may not be possible for an investor to enforce judgments obtained in U.S. courts based upon the civil liability provisions of U.S. federal securities laws or other laws of the U.S. against us or those persons.

*Our actual financial results may vary from our publicly disclosed forecasts.*

Our actual financial results are likely to vary from any publicly disclosed forecasts and these variations could be material and adverse. We may periodically provide guidance on future financial results which reflect numerous assumptions concerning expected performance, as well as other factors that are beyond our control and which may not turn out to be correct. Although we believe the assumptions underlying any such guidance and other forward-looking statements are reasonable when they are made, actual results could be materially different. Our financial results are subject to numerous risks and uncertainties, including those identified throughout these risk factors. Please also refer to the "Cautionary Note Regarding Forward-Looking Statements" section of this MD&A.

---

If our actual results vary from any announced guidance, the price of the Common Shares may decline, and such a decline could be substantial. Except as required under applicable securities legislation, we do not undertake to update any guidance or other forward-looking information we may provide, whether as a result of new information, future events or otherwise.

*Changes to our tax assets or liabilities could have an adverse effect on our consolidated financial condition or results of operations.*

The calculation of tax assets and liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. We are subject to examinations by the Canada Revenue Agency, the U.S. Internal Revenue Service and other taxing jurisdictions on various tax matters, including challenges to various positions adopted in our filings and foreign tax liability and withholding. We generally recognize tax contingencies when they are determined to be more likely than not to occur. Although we believe we have adequately recorded tax assets and accrued for tax contingencies that meet this criterion, we may not fully recover recorded tax assets or may be required to pay taxes in excess of accrued amounts, each of which could have an adverse effect on our consolidated financial condition or results of operations.

*If we are, at any time, classified as a “passive foreign investment company” under U.S. tax laws, U.S. holders of Common Shares may be subject to adverse tax consequences.*

A non-U.S. corporation would be classified as a passive foreign investment company (a “PFIC”), for U.S. federal income tax purposes, in any taxable year in which, after applying relevant “look-through” rules with respect to the income and assets of its subsidiaries, either at least 75% of the composition of its gross income is “passive income” or, on average, at least 50% of the gross value of the composition of its assets is attributable to assets that produce passive income or are held for the production of passive income.

Based on current operations and financial projections, we believe we will not be a PFIC for U.S. federal income tax purposes for our 2017 fiscal year. Annual determinations, however, must be made as to whether we are a PFIC based on the types of income we earn and the types and value of our assets from time to time, all of which are subject to change. We cannot, therefore, provide any assurance that we will not be a PFIC for our current taxable year or any future taxable year. If we were to be treated as a PFIC for any taxable year, certain adverse U.S. federal income tax consequences could apply to U.S. shareholders.

U.S. holders of Common Shares are urged to consult their tax advisors with respect to the U.S. federal, state and local tax consequences of the acquisition, ownership, and disposition of their Common Shares if we were determined to be a PFIC in any taxable year as may be applicable to their particular circumstances.

*The acquisition of, investment in and disposition of Common Shares has tax consequences.*

Investors should be aware that the acquisition, holding and/or disposition of Common Shares have tax consequences both in the U.S. and Canada that are not described in this MD&A. Holders of Common Shares should consult their own tax advisors with respect to the tax consequences of the acquisition, ownership and disposition of Common Shares as may be applicable to their particular circumstances.

*Substantial future sales of Common Shares by existing shareholders, or the perception that such sales may occur, could cause the market price of the Common Shares to decline, even if our business is doing well.*

If our existing shareholders, including any of our directors or executive officers, sell substantial amounts of Common Shares in the public market, or are perceived by the public market as intending to sell substantial amounts of Common Shares, the trading price of the Common Shares could decline. At September 30, 2017, 118,627,249 Common Shares were outstanding, all of which are freely tradable, without restriction, in the public market, subject to blackout periods and applicable laws relating to insider trading, of which nearly 2,720,000 Common Shares were held or controlled, directly or indirectly, by our directors and executive officers.

---

In addition, fully vested options to purchase nearly 2,800,000 Common Shares were held by our directors and executive officers at September 30, 2017, and additional options to purchase Common Shares continue to vest in accordance with the terms of those options. It must be noted, however, that all such vested options had exercise prices higher than the market price of the Common Shares on September 30, 2017. Any Common Shares issued upon the exercise of such options would be freely tradable upon issue, without restriction, in the public market, subject to blackout periods and applicable laws relating to insider trading.

If any of these Common Shares are sold, or if it is perceived that they will be sold, in the public market, the trading price of the Common Shares could decline.

*We may require additional capital in the future and no assurance can be given that such capital will be available at all or available on terms acceptable to us.*

We may need to raise additional funds through public or private debt or equity financings to:

- fund ongoing operations;
- take advantage of opportunities, including more rapid expansion of our business or the acquisition of complementary products, technologies or businesses;
- develop new products or services; or
- respond to competitive pressures.

Any additional capital raised through the sale of equity will dilute the percentage ownership of each shareholder in the Common Shares and such dilution may be significant. Capital raised through debt financing would require us to make periodic interest payments and may impose restrictive covenants on the conduct of our businesses. Furthermore, additional financing may not be available on favourable terms, or at all. A failure to obtain additional financing could prevent us from making expenditures that may be required to grow or maintain our operations.

*Certain Canadian laws could delay or deter a change of control.*

The *Investment Canada Act* (Canada) subjects an acquisition of control of Quarterhill by a non-Canadian to government review if the value of our assets as calculated pursuant to the legislation exceeds a certain threshold amount. A reviewable acquisition may not proceed unless the relevant Canadian federal government minister is satisfied that the investment is likely to be a net benefit to Canada. This could prevent or delay a change of control and may eliminate or limit strategic opportunities for shareholders to sell their Common Shares.

*Our authorized capital permits our directors to issue preferred shares which may prevent a takeover by a third-party.*

Quarterhill's authorized share capital consists of an unlimited number of Common Shares, 6,350.9 special preferred shares and an unlimited number of preferred shares, issuable in series. There are no special preferred shares or preferred shares outstanding. The Board has the authority to issue preferred shares and determine the price, designation, rights, preferences, privileges, restrictions and conditions, including dividend rights, of these shares without any further vote or action by shareholders. The rights of the holders of Common Shares will be subject to, and may be adversely affected by, the rights of holders of any preferred shares that may be issued in the future. Our ability to issue preferred shares could make it more difficult for a third-party to acquire a majority of the outstanding Common Shares, the effect of which may be to deprive our shareholders of a control premium that might otherwise be realized in an acquisition.

## BUSINESS COMBINATIONS

Quarterhill completed one acquisition during the third quarter ended September 30, 2017.

On July 18, 2017, we acquired 100% of the issued and outstanding common shares of iCOMS Detections S.A. ("iCOMS"), a privately held company providing radar microwave detectors and equipment for the ITS market, for aggregate consideration of approximately \$1.2 million. This acquisition is included as a wholly owned subsidiary of IRD; accordingly, the financial results of iCOMS are included in the Mobility Segment for the three and nine months ended September 30, 2017 for the period July 18, 2017 to September 30, 2017. The recognized amounts of identifiable assets acquired and liabilities assumed, based on their preliminary estimated fair values as at July 18, 2017 are as follows:

<i>Acquisition of ICOMS Detections S.A.</i>		
Current assets	\$	1,040
Non-current tangible assets		24
Tax asset		563
Customer related intangible assets		254
Technology related intangible assets		251
Deferred income tax liabilities		(172)
Other liabilities assumed		(1,022)
Total identifiable net assets		938
Goodwill		246
<b>Net assets acquired</b>	<b>\$</b>	<b>1,184</b>
<i>Purchase price reconciliation</i>		
Cash purchase price	\$	865
Shareholder loan		319
<b>Net purchase price</b>	<b>\$</b>	<b>1,184</b>

Goodwill recorded in connection with the iCOMS acquisition is primarily attributable to our expected future earnings potential as a result of the enhanced opportunity to expand Quarterhill's addressable market and drive overall growth. The goodwill recognized in connection with this acquisition has been allocated to our Mobility segment and will be evaluated for impairment (along with the indefinite-lived intangible assets) in the fourth quarter of each fiscal year consistent with our existing impairment policy.

On April 17, 2017, we announced the acquisition of 100% of the issued and outstanding common shares of IRD for aggregate consideration of approximately \$47.8 million. This acquisition closed on June 1, 2017; accordingly, our financial results for the three months ended September 30, 2017 include IRD's results for the entire quarter and our results for the nine-months ended September 30, 2017 include the results of IRD from June 1, 2017 onwards. The recognized amounts of identifiable assets acquired and liabilities assumed, based on their estimated fair values as at May 31, 2017 were as follows:

<i>Acquisition of International Road Dynamics Inc.</i>		
Current assets	\$	21,358
Non-current tangible assets		7,739
Customer related intangible assets		8,100
Technology related intangible assets		7,400
Brand related intangible assets		5,900
Backlog related intangible assets		1,300
Deferred income tax liabilities		(6,117)
Other liabilities assumed		(13,718)
<b>Total identifiable net assets</b>		<b>31,962</b>
Goodwill		15,820
<b>Net assets acquired</b>	<b>\$</b>	<b>47,782</b>
<i>Purchase price reconciliation</i>		
Cash purchase price	\$	49,860
Less cash acquired		2,078
<b>Net purchase price</b>	<b>\$</b>	<b>47,782</b>

Included in net tangible assets is acquired deferred revenue which represents advance payments from customers related to various revenue contracts. We estimated our obligation related to the deferred revenue using the cost build-up approach which determines fair value by estimating the costs relating to supporting the obligation plus an assumed profit. The sum of the costs and assumed profit approximates, in theory, the amount that we would be required to pay a third-party to assume the obligation. The estimated costs to fulfill the obligation were based on the near-term projected cost structure for various revenue contracts. As a result, we recorded an adjustment to reduce IRD's carrying value of deferred revenue by \$380, which represents our estimate of the fair value of the contractual obligations assumed based on an external valuation. The net deferred revenue included in the liabilities assumed above is \$5.4 million, after the impact of this adjustment. Also included within net tangible assets were certain contract assets which represent revenue earned by IRD on long-term projects for which billings had not yet occurred as of May 31, 2017. As these long-term projects have now been inherited by Quarterhill, we will be responsible for billing and collecting cash on these projects at the appropriate time, but we will not recognize revenue for these billings. The fair value assigned to these contract assets as of May 31, 2017 was \$4.0 million. The carrying value of inventory was increased by a fair value increment of \$642. This "step-up" in inventory value will result in increased costs of revenues until such time as the inventory is fully consumed.

Acquisition-related costs for IRD included in "Special charges" in the condensed consolidated interim statements of operations for the three and nine months ended September 30, 2017 were \$0.1 million and \$0.8 million, respectively.

Goodwill recorded in connection with the IRD acquisition is primarily attributable to our expected future earnings potential as a result of the enhanced opportunity to expand Quarterhill's addressable market and drive overall growth. The goodwill recognized in connection with this acquisition has been allocated to our Mobility Segment and will be evaluated for impairment (along with the indefinite-lived intangible assets) in the fourth quarter of each fiscal year consistent with our existing impairment policy.

On May 4, 2017, we announced that we had acquired 100% of the issued and outstanding shares of VIZIYA and its related companies for an aggregate consideration of up to \$30.0 million. In certain circumstances, based on an earn-out formula (discussed below) the aggregate consideration could be greater than \$30.0 million. The results of VIZIYA and its related companies for the months of May to September 2017 have been included in our financial results for the nine months ended September 30, 2017. The recognized amounts of identifiable assets acquired and liabilities assumed, based on their estimated fair values on May 3, 2017 were as follows:

<i>Acquisition of VIZIYA Corp.</i>		
Current assets	\$	2,955
Non-current tangible assets		305
Customer related intangible assets		5,800
Technology related intangible assets		10,000
Brand related intangible assets		1,400
Deferred income tax liabilities		(4,796)
Other liabilities assumed		(2,711)
<b>Total identifiable net assets</b>		<b>12,953</b>
Goodwill		12,680
<b>Net assets acquired</b>	<b>\$</b>	<b>25,633</b>
<i>Purchase price reconciliation</i>		
Cash purchase price	\$	17,675
Less cash acquired		56
Common shares issued		662
Fair value of contingent share consideration		2,650
Fair value of contingent cash consideration		3,800
Shareholder loan repaid		902
<b>Net purchase price</b>	<b>\$</b>	<b>25,633</b>

Included in net tangible assets is acquired deferred revenue which represents advance payments from customers related to various revenue contracts. We estimated our obligation related to the deferred revenue using the cost build-up approach which determines fair value by estimating the costs related to supporting the obligation plus an assumed profit. The sum of the costs and assumed profit approximates, in theory, the amount that we would be required to pay a third-party to assume the obligation. The estimated costs to fulfill the obligation were based on the near-term projected cost structure for various revenue contracts. As a result, we recorded an adjustment to reduce VIZIYA's carrying value of deferred revenue by \$0.9 million, which represents our estimate of the fair value of the contractual obligations assumed based on an independent valuation. The net deferred revenues included in the liabilities assumed above are \$1.6 million, after the impact of this adjustment.

Acquisition-related costs for VIZIYA included in "Special charges" in the condensed consolidated interim statements of operations for the three and nine months ended September 30, 2017 were \$0.1 million and \$0.7 million, respectively.

In connection with this acquisition, we agreed to pay the former owners of VIZIYA up to an additional \$11.85 million upon VIZIYA achieving certain EBITDA targets for the period from April 1, 2017 to July 31, 2019. This amount consists of cash consideration of up to \$6.0 million and the issuance of up to 3,647,417 additional Common Shares. In addition, if VIZIYA achieves cumulative EBITDA during that period exceeding \$11.85 million, then we will pay 50% of that excess as additional contingent consideration until that cumulative EBITDA reaches \$24.0 million.

The liability associated with the expected payment of the contingent consideration obligation was preliminarily valued at \$6.45 million at the acquisition date, consisting of \$3.8 million reflecting the fair value of the contingent cash

consideration and \$2.65 million reflecting the fair value of the contingent share consideration. We will reevaluate the fair value of both contingent consideration elements on a periodic basis which may result in an increase or decrease in the liability recorded. Adjustments to the liability amount will be recorded as a “Special charge” within our Factory segment when incurred. The fair values of both contingent consideration elements have been determined using a Monte Carlo simulation. We have determined that no adjustment is required for the three months ended September 30, 2017.

Goodwill recorded in connection with the acquisition is primarily attributable to our expected future earnings potential as a result of the enhanced opportunity to expand Quarterhill’s addressable market and drive overall growth. The goodwill recognized in connection with the acquisition has been allocated to the Factory Segment and will be evaluated for impairment (along with the indefinite-lived intangible assets) in the fourth quarter of each fiscal year consistent with our existing impairment policy.

## OVERALL PERFORMANCE

The results of operations for the three months ended September 30, 2017 include WiLAN, IRD, and VIZIYA results for the entire quarter. The results of iCOMS operations, included in the Mobility Segment, have been included for the period from July 18, 2017 to September 30, 2017. The comparative period information presented represents solely WiLAN’s results for the specified period.

Consolidated revenues for the quarter ended September 30, 2017 were \$85.9 million as compared to \$16.6 million representing an increase of \$69.3 million or over 400%. With the addition of the IRD, iCOMS, and VIZIYA businesses, the composition of revenues, cost of revenues (excluding depreciation and amortization) and other operating expenses have changed significantly and we have modified our financial statement presentation to reflect the overall business of Quarterhill. 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.
Services	Services revenues includes revenues generated from the provision of professional services sold on a time and material consulting basis.
Recurring	Recurring revenues represents revenues realized under service and maintenance contracts, software maintenance contracts, hosted “software as a service” applications, revenues from running royalties and data analytics services. The underlying contracts included in this category generally range from one to five years. Recurring revenues are recognized on either a percentage completion basis, time and material basis, or ratably over the duration of the contract, depending on contract terms.

For this quarter: (1) Licenses revenues were \$72.2 million, reflecting \$71.9 million in technology licenses granted and \$0.3 million in software licenses (please refer to the “Segmented Results” section of this MD&A); (2) Systems revenues generated within our Mobility Segment were \$6.8 million; (3) Services revenues were \$0.8 million; and (4) Recurring revenues, on a consolidated basis, were \$6.2 million. There is no comparative information for the Systems, Services and Recurring revenues figures because they relate to business acquisitions completed in 2017. The Company has classified certain of the technology license revenues as recurring given the running royalty nature of the revenues; however

comparative information has not been restated as there was only one segment with one overall classification of revenues in the prior year.

Recurring revenues are a key element in our growth strategy; we expect to acquire companies that have, or will have post acquisition, growing recurring revenue streams.

	For the three months ended,		For the nine months ended,	
	September 30, 2017	September 30, 2016	September 30, 2017	September 30, 2016
<i>Revenues</i>				
Licenses	\$ 72,158	\$ 16,569	\$ 91,470	\$ 62,690
Systems	6,759	-	9,826	-
Services	780	-	1,494	-
Recurring	6,200	-	9,296	-
	85,897	16,569	112,086	62,690
<i>Cost of revenues (excluding depreciation and amortization)</i>				
License	9,864	5,398	23,706	19,661
Systems	4,740	-	6,638	-
Services	500	-	821	-
Recurring	3,321	-	4,175	-
	18,425	5,398	35,340	19,661
	67,472	11,171	76,746	43,029
<i>Operating expenses</i>				
Selling, general and administrative	6,501	1,800	13,117	6,986
Research and development	1,492	-	2,160	-
Depreciation of property, plant and equipment	556	104	817	317
Amortization of intangibles	7,336	6,744	18,667	26,616
Loss on disposal of intangible	15,190	-	15,190	-
Special charges	218	-	1,512	-
	31,293	8,648	51,463	33,919
Results from operations	36,179	2,523	25,283	9,110
Finance income)	(93)	(138)	(545)	(376)
Finance expenses	970	-	984	-
Foreign exchange (gain) loss	239	78	(472)	(199)
Other expense (income)	(231)	-	(300)	-
Income before taxes	35,294	2,583	25,616	9,685
Current income tax expense	5,309	1,028	6,883	4,888
Deferred income tax expense (recovery)	3,774	898	(3,858)	2,372
Income tax expense	9,083	1,926	3,025	7,260
<b>Net income</b>	<b>\$ 26,211</b>	<b>\$ 657</b>	<b>\$ 22,591</b>	<b>\$ 2,425</b>
<i>Net income per share</i>				
Basic	\$ 0.22	\$ 0.01	\$ 0.19	\$ 0.02
Fully diluted	\$ 0.22	\$ 0.01	\$ 0.19	\$ 0.02
<i>Weighted average number of common shares</i>				
Basic	118,627,249	118,912,606	118,595,713	119,500,216
Fully Diluted	118,627,249	118,912,606	118,595,713	119,500,216

Gross margin, revenues less cost of revenues (excluding depreciation and amortization), for the quarter was \$67.5 million or 78.5% and reflects the overall gross margin across all our vertical segments. Comparatively, for the same period last year, we reported gross margin of \$11.2 million or 67.4%, all of which was related to what is now our Technology Segment.

Our cost of revenues includes: (i) for our Technology Segment, all costs of conducting licensing programs including staffing, litigation, patent ownership related costs, and contingent litigation and partner payments; (ii) for our Mobility Segment, all costs of delivering on a project including staff costs, inventory consumption costs, subcontractor costs, and costs related to any maintenance and warranty work completed; and (iii) for our Factory Segment, all staff costs necessary for the delivery of consulting services. Cost of revenues excludes depreciation and amortization.

Our operating expenses at \$31.3 million for the quarter include selling, general and administrative costs, research and development costs, depreciation, amortization of tangible and intangible assets and loss on disposal of intangible. We have also included special charges within the category of operations expenses. On a comparative basis, operating expenses for the same period last year were \$8.6 million and included only the costs associated with what is now our Technology Segment. Amortization of intangibles has increased in the quarter as compared to the same period last year from \$6.7 million to \$7.3 million as a result of increased amortization of acquired intangible assets offset, in part by the completion of the expected useful life of a number of patent assets through the last half of fiscal 2016. In addition, the comparative period contains all corporate level costs (i.e. the costs that would now be attributable to Quarterhill's operations) because there was only one segment during that period. In the current quarter, operating expenses increased \$7.3 million as a result of the acquisitions completed.

Special charges are those expenses incurred in the completion of any acquisitions including costs of financial, legal and accounting advisor fees, due diligence advice, and other costs that are of a one-time nature. We do not expect these costs to recur unless there are additional acquisition activities undertaken. We do expect to charge any changes in fair value of acquired assets to this expense item should they arise because these non-cash expenses will directly relate to any completed acquisitions.

Foreign exchange losses in the quarter arose largely as a result of translation of activities from a foreign currency to the reporting currency of our various businesses (please refer to the "Segmented Disclosures" section of this MD&A).

Finance income principally represents interest earned on cash balances held. To the extent we have a much lower cash balance at the end of the current quarter as compared to previous quarters, the expected interest income will be reduced from comparative levels. Finance expense represents interest expense on debt carried within one of our subsidiaries. All of IRD, iCOMS, and VIZIYA have bank debt and, as a result, will have finance expense on a normal basis. In October 2012, the Company advanced a term loan facility in the amount of \$1 million to Montebello Technologies LLC. This loan bore interest at 15% per annum compounded annually with a maturity date of October 18, 2017. There was a dispute on the applicability of the interest charged on the loan and the Company agreed to forego the interest to ensure the receipt of the principal amount. As a result, there is a \$0.9 finance expense incurred in the quarter. The \$1 million principal amount was received in October 2017.

We plan to finance part of our growth through the issuance of long-term debt, when appropriate, which will have a finance expense component. To the extent we arrange for and draw upon such debt, finance expense can be expected to increase in the periods following the current quarter.

Other expense (income) captures all other expenses or income items not otherwise accounted for elsewhere in our condensed consolidated interim statement of operations. For the third quarter, this represents IRD's proportionate share in the profits of its joint venture Xuzhou PAT Control Technology Co., Ltd. an ITS products and manufacturing service provider in China ("XPCT") (please refer to the "Mobility Segment" section of this MD&A).

Income tax expense for the third quarter was \$9.1 million, comprised of \$5.3 million in current income tax expense, the majority of which is related to foreign income taxes withheld by customers within our Technology Segment, and \$3.8 million of deferred income taxes. The creation of Quarterhill in the second quarter of 2017 through a corporate amalgamation and subsequent reorganization resulted in the recovery of certain deferred income tax assets against which we previously carried a valuation allowance. In addition, the acquisitions completed in the that quarter increased certain deferred tax assets and created deferred tax liabilities; acquired intangibles will have amortization for accounting purposes which will not be deductible for income tax purposes therefore giving rise to a deferred tax liability. The significant profitability of the Company in the third quarter has resulted in the increased deferred tax expense.

We have assigned probabilities to our expected future taxable income based on significant risk factors, sensitivity analysis and timing of non-capital tax losses. The amount of the deferred income tax asset considered realizable could change materially in the near term, based on future taxable income during the carryforward period. The valuation allowance consists of \$2,630 in Canada, \$503 in Ireland, \$12,826 in the U.S. and \$1,297 in India.

Generally, our practice and intention is to reinvest the earnings of our foreign subsidiaries in those operations. As of September 30, 2017, we have not made a provision for Canadian or additional foreign withholding taxes on approximately \$4,500 of the excess of the amount for financial reporting over the tax basis of investments in foreign subsidiaries that is indefinitely reinvested. Such amounts generally become subject to Canadian taxation upon the remittance of dividends and under certain other circumstances. It is not practicable to estimate the amount of deferred tax liability related to investments in these foreign subsidiaries.

We reported net income for the quarter of \$26.2 million or \$0.22 per basic and diluted Common Share. This compares to a \$0.7 million or \$0.01 per basic and diluted Common Share for the same period in 2016. For the nine months ended September 30, 2017, we recorded net income of \$22.6 million or \$0.19 per basic and diluted Common Share as compared to \$2.4 million or \$0.02 per basic and diluted Common Share for the same period in 2016.

#### Selected Balance Sheet Data

As at	September 30, 2017	December 31, 2016
Cash and cash equivalents	35,817	106,553
Short-term investments, including restricted amounts	4,742	1,154
Total assets	323,931	282,983
Bank debt	4,152	-
Long-term debt	546	-
Dividend declared per Common Share	C\$0.0125	C\$0.0125

As at September 30, 2017, we held cash, cash equivalents, short-term investments, and restricted short-term investments totalling \$40.6 million representing 12.5% of our total assets. We will use this cash to fund our operations, complete additional corporate acquisitions, and service our existing bank and long-term debt.

#### *Reconciliation of Adjusted EBITDA to Net Income (Loss)*

We consider Adjusted EBITDA, a non-GAAP measure, to be a good indicator of performance for the business as it more accurately captures financial performance in a given period related to the operations of Quarterhill and each of our reporting segments.

We reported Adjusted EBITDA of \$60.6 million or 71% of revenues for the third quarter. With the creation of Quarterhill and the adoption of a growth oriented strategy anchored in acquisitions of businesses operating in the “Industrial Internet of Things” market, we began tracking expenses related to the acquisitions and separately classified them in our unaudited condensed consolidated interim statements of operations. Special charges generally consist of advisor fees, accounting and valuation fees, due diligence related expenses, and legal fees. Although these expenses will recur as we complete additional acquisitions, they are not related to the actual operations of the business 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, stock based compensation, other acquisition related accounting items, and other one-time charges.

Adjusted EBITDA	For the three months ended,		For the nine months ended,	
	September 30, 2017	September 30, 2016	September 30, 2017	September 30, 2016
Net income	\$ 26,211	\$ 657	\$ 22,591	\$ 2,425
Adjusted for:				
Income tax expense	9,083	1,926	3,025	7,260
Foreign exchange (gain) loss	239	78	(472)	(199)
Finance expense	970	-	984	-
Finance income	(93)	(138)	(545)	(376)
Special charges	218	-	1,512	-
Amortization of intangibles	7,336	6,744	18,667	26,616
Loss on disposal of intangible	15,190	-	15,190	-
Depreciation of property, plant and equipment	556	104	817	317
Effect of deleted deferred revenue	374	-	641	-
Increased costs from inventory step-up	444	-	581	-
Effect of deleted prepaid expenses	(10)	-	(10)	-
Stock based compensation	273	42	452	195
Other expense (income)	(231)	-	(300)	-
<b>Adjusted EBITDA</b>	<b>\$ 60,560</b>	<b>\$ 9,413</b>	<b>\$ 63,133</b>	<b>\$ 36,238</b>

<i>Adjusted EBITDA per share</i>	For the three months ended,		For the nine months ended,	
	September 30, 2017	September 30, 2016	September 30, 2017	September 30, 2016
Net income	\$ 0.22	\$ 0.01	\$ 0.19	\$ 0.02
Adjusted for:				
Income tax expense	0.08	0.02	0.03	0.06
Foreign exchange (gain) loss	-	-	-	-
Finance expense	0.01	-	0.01	-
Finance income	-	-	-	-
Special charges	-	-	0.01	-
Amortization of intangibles	0.06	0.06	0.16	0.22
Loss on disposal of intangible	0.13	-	0.13	-
Depreciation of property, plant and equipment	-	-	0.01	-
Effect of deleted deferred revenue	-	-	0.01	-
Increased costs from inventory step-up	-	-	-	-
Effect of deleted prepaid expenses	-	-	-	-
Stock based compensation	-	-	-	-
Other expense (income)	-	-	-	-
<b>Adjusted EBITDA per share</b>	<b>\$ 0.50</b>	<b>\$ 0.09</b>	<b>\$ 0.55</b>	<b>\$ 0.30</b>

**Weighted average number of Common Shares**

Basic	118,627,249	118,912,606	118,595,713	119,500,216
-------	-------------	-------------	-------------	-------------

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 preliminarily 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 (please refer to the "Acquisitions" section of this MD&A). 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 are amortizing customer related intangible assets over a period of seven years and technology 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. The companies that we acquired in this second quarter had a combined \$7.7 million in deferred revenue immediately prior to the completion of our acquisition. As required by GAAP, 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 was determined to be \$6.5 million resulting in an adjustment reducing the consolidated deferred revenue by \$1.2 million. To better evaluate the performance of our acquired businesses, we will add back this deleted revenue in the calculation of Adjusted EBITDA to indicate the overall results of the business had an acquisition not occurred.

In determining the fair value of assets acquired, we recorded a step-up in the value of inventory acquired in the IRD acquisition to reflect the value that we would have had to pay for that inventory if we had purchased it separately outside of a corporate acquisition. This step up increased inventory by approximately \$0.6 million which amount will increase cost of goods sold within our Mobility segment as that inventory is consumed in the operations. We view this increased cost of goods sold as solely related to the acquisition and not reflective of the underlying economics of the

acquired business. Accordingly, we will deduct this amount in the determination of the Adjusted EBITDA to better indicate the performance of the business segment had an acquisition not been undertaken.

Adjusted EBITDA of \$60.6 million, or \$0.50 per basic Common Share, compares to \$9.4 million or \$0.09 per basic Common Share which reflects the significantly higher Adjusted EBITDA performance of our Technology segment as a result of higher revenues, plus the addition of Adjusted EBITDA from each of our acquired businesses. For the nine months ended September 30, 2017, Adjusted EBITDA was \$63.1 million or \$0.55 per basic Common Share as compared to \$36.2 million or \$0.30 per basic Common Share which reflects only the results generated in our Technology segment last year.

## SEGMENTED RESULTS

Segmented results of operations for the three and nine months ended September 30, 2017 as compared to the three and nine month periods ended September 30, 2016 (where applicable) are included in this MD&A. Prior to June 1, 2017 we operated in a single segment, technology licensing (formerly WiLAN). With the creation of Quarterhill and the acquisitions of IRD, iCOMS, and VIZIYA, we now consider that we operate in three distinct segments (please also refer to the “Description of Our Business” section of this MD&A).

For the three months ended September 30, 2017, Quarterhill generated \$85.9 million in revenue and Adjusted EBITDA of \$60.5 million. Each of our individual segments is discussed more fully below.

	For the three months ended September 30, 2017					Total
	Technology	Mobility	Factory	Corporate		
Revenues	\$ 72,592	\$ 11,555	\$ 1,750	\$ -	\$ -	\$ 85,897
Cost of revenues (excluding depreciation and amortization)	9,882	8,048	495	-	-	18,425
	62,710	3,507	1,255	-	-	67,472
Selling, general and administrative	1,310	2,530	905	1,756	-	6,501
Research and development	-	853	639	-	-	1,492
Depreciation of property, plant and equipment	82	445	28	1	-	556
Amortization of intangibles	5,473	1,072	791	-	-	7,336
Loss on disposal of intangibles	15,190	-	-	-	-	15,190
Special charges	-	-	-	218	-	218
Results from operations	40,655	(1,393)	(1,108)	(1,975)	-	36,179
Finance income	(76)	(1)	-	(16)	-	(93)
Finance expense	926	43	3	(2)	-	970
Foreign exchange loss (gain)	(131)	409	2	(41)	-	239
Other expense (income)	-	(231)	-	-	-	(231)
Income (loss) before taxes	39,936	(1,613)	(1,113)	(1,916)	-	35,294
Current income tax expense (recovery)	5,082	232	(5)	-	-	5,309
Deferred income tax expense (recovery)	(5,369)	(858)	(291)	10,292	-	3,774
Income tax expense (recovery)	(287)	(626)	(296)	10,292	-	9,083
<b>Net income (loss)</b>	<b>\$ 40,223</b>	<b>\$ (987)</b>	<b>\$ (817)</b>	<b>\$ (12,208)</b>	<b>\$ -</b>	<b>\$ 26,211</b>
Adjusted EBITDA	61,400	707	3	(1,550)	-	60,560
<i>Other reconciling items:</i>						
Effect of deleted deferred revenue	-	82	292	-	-	374
Increased costs from inventory step-up	-	444	-	-	-	444
Stock based compensation	-	67	-	206	-	273
Effect of deleted prepaid expense	-	(10)	-	-	-	(10)

	For the nine months ended September 30, 2017					Total
	Technology	Mobility	Factory	Corporate		
Revenues	\$ 92,218	\$ 16,203	\$ 3,665	\$ -	\$ -	\$ 112,086
Cost of revenues (excluding depreciation and amortization)	23,644	10,800	896	-	-	35,340
	68,574	5,403	2,769	-	-	76,746
Selling, general and administrative	5,484	3,502	1,781	2,350	-	13,117
Research and development	-	1,161	999	-	-	2,160
Depreciation of property, plant and equipment	261	493	62	1	-	817
Amortization of intangibles	16,097	1,308	1,262	-	-	18,667
Loss on disposal of intangibles	15,190	-	-	-	-	15,190
Special charges	-	-	-	1,512	-	1,512
Results from operations	31,542	(1,061)	(1,335)	(3,863)	-	25,283
Finance income	(467)	(1)	-	(77)	-	(545)
Finance expense	926	54	6	(2)	-	984
Foreign exchange loss (gain)	(516)	695	43	(694)	-	(472)
Other expense (income)	-	(300)	-	-	-	(300)
Income (loss) before taxes	31,599	(1,509)	(1,384)	(3,090)	-	25,616
Current income tax expense	6,516	333	34	-	-	6,883
Deferred income tax expense (recovery)	(7,869)	(920)	(485)	5,416	-	(3,858)
Income tax expense (recovery)	(1,353)	(587)	(451)	5,416	-	3,025
<b>Net income (loss)</b>	<b>\$ 32,952</b>	<b>\$ (922)</b>	<b>\$ (933)</b>	<b>\$ (8,506)</b>	<b>\$ -</b>	<b>\$ 22,591</b>
Adjusted EBITDA	63,147	1,517	523	(2,054)	-	63,133
<i>Other reconciling items:</i>						
Effect of deleted deferred revenue	-	107	534	-	-	641
Increased costs from inventory step-up	-	581	-	-	-	581
Stock based compensation	57	99	-	296	-	452
Effect of deleted prepaid expense	-	(10)	-	-	-	(10)

### Technology Segment

Our Technology segment presently comprises the operations of WiLAN.

Technology Segment	For the three months ended,		For the nine months ended,	
	September 30, 2017	September 30, 2016	September 30, 2017	September 30, 2016
Revenues	\$ 72,592	\$ 16,569	\$ 92,218	\$ 62,690
Cost of revenues (excluding depreciation and amortization)	9,882	5,398	23,644	19,661
	62,710	11,171	68,574	43,029
Selling, general and administrative	1,310	1,800	5,484	6,986
Depreciation of property, plant and equipment	82	104	261	317
Amortization of intangibles	5,473	6,744	16,097	26,616
Loss on disposal of intangibles	15,190	-	15,190	-
Results from operations	40,655	2,523	31,542	9,110
Finance income	(76)	(138)	(467)	(376)
Finance expense	926	-	926	-
Foreign exchange loss (gain)	(131)	78	(516)	(199)
Income before taxes	39,936	2,583	31,599	9,685
Current income tax expense	5,082	1,028	6,516	4,888
Deferred income tax expense (recovery)	(5,369)	898	(7,869)	2,372
Income tax expense (recovery)	(287)	1,926	(1,353)	7,260
<b>Net income</b>	<b>\$ 40,223</b>	<b>\$ 657</b>	<b>\$ 32,952</b>	<b>\$ 2,425</b>
Adjusted EBITDA	\$ 61,400	\$ 9,413	\$ 63,147	\$ 36,238

For the three months ended September 30, 2017 revenues were \$72.6 million representing a sequential increase from the last quarter of \$60.5 million or approximately 500%. Although we did not have multiple segments in the fiscal 2016 year,

the financial results in the same period last year were exclusively those of the WiLAN business, so we have considered the consolidated results last year as effectively the comparative for our Technology segment. Accordingly, revenues of \$72.6 million compare to \$16.6 million from the comparative period last year representing an increase of \$56.0 million or 338%.

Revenues in this segment are derived from five principal sources: (i) running royalty agreements pursuant to which licensees pay WiLAN royalties based on either a percentage of the net selling price of licensed products or a fixed fee per licensed product sold; (ii) fixed fee royalties consisting of a set quarterly or annual amount for all licensed products sold by licensees; (iii) one-time lump sum fees to cover the sale of all licensed products by a particular licensee, subject to certain limitations; (iv) licensing patents on behalf of WiLAN's partners; or (v) brokerage which provides the acquirer exclusive rights to the technology. License agreements are generally for a five to eight year period but can be significantly longer or covering the entire life of the underlying licensed patents. Revenue is considered to be earned when there is persuasive evidence of an arrangement, all obligations that need to be performed have been fulfilled in accordance with the terms of the license agreement, including delivery and acceptance, the revenue amount is fixed or determinable and collection is reasonably assured.

Revenues can vary significantly from quarter to quarter depending upon the type of royalty arrangement with licensees, the timing of royalty reporting by licensees, the cyclical nature of licensees' markets and fluctuations in foreign currency and other factors. Revenues can fluctuate based on individual licensees' growth and success rates in their respective markets, and other market factors on their respective businesses and other factors outside of our control.

Historically, a significant portion of licensing revenues has been generated by license agreements having fixed periodic payments, however we expect that an increasing portion of WiLAN's revenues will be generated by license agreements having one-time lump sum payments and therefore this segment's revenue is expected to fluctuate from period to period.

Cost of revenues (excluding depreciation and amortization) is comprised of patent licensing expenses which includes royalty obligations, cost of patents sold through brokerage activities (if any), employee-related costs and other costs incurred in conducting license negotiations, contingent partner and legal fee payment and other litigation expenses as well as all costs associated with the ownership and management of WiLAN's patent portfolio. Many of these costs are directly related to the size and breadth of the patent portfolio and, therefore, as WiLAN adds or reduces patents, these costs would be expected to increase or decrease accordingly.

Cost of revenues (excluding depreciation and amortization) for the three months ended September 30, 2017 was \$9.9 million or 13.6% of revenues as compared to \$6.4 million or 52.9% of revenues for the second quarter of 2017 representing a sequential increase of \$3.5 million. This increase relates primarily to increased contingent litigation and partner payment amounts offset by lower engineering and patent ownership costs. For the comparable period last year, the cost of revenues (excluding depreciation and amortization) was \$5.4 million. The majority of these expenses, at this level, are semi-fixed and will not vary significantly from period to period. Litigation expenses, and all contingent payments would be expected to vary from period to period depending on the overall number of litigations conducted by WiLAN and the amount of revenues recorded that have a contingent component associated with them.

Operating expenses are generally considered marketing, general and administration type expenses and include all overheads for WiLAN operations in addition to depreciation and amortization expense for and write-off of assets utilized in the business. For the three months ended September 30, 2017 operating expenses within this segment were \$31.5 million which included \$5.5 million in patent amortization and \$82 in depreciation leaving cash operating expenses of \$1.3 million for the quarter. Included in this quarter's operating expenses is a non-cash charge of \$15.2 million related to the disposal of certain licensing rights.

Foreign exchange gains during the quarter were \$0.1 million which is not significant. We cannot accurately predict foreign exchange movements and as such, cannot accurately predict future gains and losses related to unhedged transactions denominated in currencies other than U.S. dollars.

Finance income for the three months ended September 30, 2017 was \$76 and \$0.5 million for the nine months ended September 30, 2017. This income arises from interest earned on cash deposits during the period. Since June 1, 2017 our Technology segment has not carried significant cash balances, nor is it expected that it will as all excess cash in any subsidiary is returned to Quarterhill. Accordingly, finance income should be minimal on a go forward basis.

Income tax recovery for the third quarter was \$0.3 million and was comprised of current taxes of \$5.1 million and a deferred income tax recovery of \$5.4 million. Current income tax expense for all reported periods consisted of foreign taxes withheld on licensing revenues received from licensees in foreign tax jurisdictions for which there is no treaty relief and current income taxes for which there are no carryforwards, partially offset by loss carrybacks generated in 2016. As a result of the corporate transactions undertaken effective June 1, a number of the tax assets formerly held within our Technology segment have been absorbed by Quarterhill and accordingly, there was a deferred income tax recovery in the second quarter. As a result of the allocation of profitability between Quarterhill and WiLAN, there is an additional deferred tax recovery within the current quarter for WiLAN which is offset by a significant deferred tax expense within Quarterhill.

There is a valuation allowance of \$15.2 million as at September 30, 2017 against deferred tax assets for certain of WiLAN's Canadian and all of its U.S. subsidiaries. A valuation allowance is established for any portion of deferred tax assets for which management believes it is more likely than not that WiLAN will be unable to utilize the assets to offset future taxes. We expect WiLAN to continue to utilize certain previously recognized Canadian 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. As a result, we expect the provision for deferred income tax expense to be disproportionately higher when compared to our estimated average annual rate or other operating segments of Quarterhill.

### Mobility Segment

Our Mobility segment consists of IRD's operations for the period June 1, 2017 to September 30, 2017, which also includes iCOMS as its wholly owned subsidiary for the period from July 18, 2017 to September 30, 2017.

Mobility Segment	For the three months ended, September 30, 2017	For the nine months ended, September 30, 2017
Revenues	11,555	16,203
Cost of revenues (excluding depreciation and amortization)	8,048	10,800
	3,507	5,403
Selling, general and administrative	2,530	3,502
Research and development	853	1,161
Depreciation of property, plant and equipment	445	493
Amortization of intangibles	1,072	1,308
Results from operations	(1,393)	(1,061)
Finance income	(1)	(1)
Finance expense	43	54
Foreign exchange loss	409	695
Other income	(231)	(300)
Income (loss) before taxes	(1,613)	(1,509)
Current income tax expense	232	333
Deferred income tax recovery	(858)	(920)
Income tax recovery	(626)	(587)
<b>Net loss</b>	<b>\$ (987)</b>	<b>\$ (922)</b>
Adjusted EBITDA	\$ 707	\$ 1,517

IRD revenue streams are categorized as either Systems or Recurring. Systems revenues comprises revenues earned on contracted projects, generally recognized on a percentage completion basis 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 and generally ranges from one to five year terms. Recurring revenues are recognized on either a percentage completion basis or time and material basis, depending on contract terms.

Segment revenue from Systems for the three and nine months ended September 30, 2017 was \$6.8 million and \$9.8 million respectively, arising from project sales primarily in the United States market and added iCOMS revenues of \$0.6 million in the European market. Recurring revenue for this period, in the amount of \$4.8 million and \$6.4 million respectively reflects expected levels of performance based on current open contracts.

Gross margin in the quarter and year to date was affected by the step-up in fair market value of inventory and deferred revenues recorded upon the acquisition of IRD. Were it not for these adjustments, gross margins would have increased by \$521 in the current quarter and \$688 year to date and ultimately the profitability of our Mobility segment would have been better.

Gross margin as a percentage of revenue realized in the period is in line with historic levels. Gross margins are subject to significant variance each reporting period due to factors such as changes in product mix, currency volatility and competitive factors. Over a full fiscal year, gross margins percentages generally will approximate 30 to 32%.

Operating expenses, consisting of research and development expenses ("R&D") and selling, general and administrative expenses, for the month are generally within expectations; however, they do represent slightly higher business development costs than in past periods. These expenses are expected to remain relatively consistent quarter over quarter for the balance of fiscal 2017.

IRD is committed to continual investments in research and development to enhance its current products and advance the availability of new products. For the period June 1, 2017 to September 30, 2017, net R&D spending levels were 7.4% of segment revenue. Spending for the quarter and year to date is above historical levels due to investments in third-party contract services to advance the availability of new products, including VectorSense® Tire Sensor Suite and the related Vehicle Information-In-Motion™ (VI<sup>2</sup>M™) Traffic Intelligence system. Total R&D expenses are reduced by government grants and estimated investment tax credits on eligible scientific research expenditures in Canadian operations. The value of accrued investment tax credits will vary from period to period based on the estimated portion of R&D costs considered eligible scientific research expenditures under Canadian tax rules.

Selling, general and administrative expenses comprise the operating costs of IRD and its subsidiary businesses in support of its selling, marketing and administrative activities. Costs incurred for the period July 1 to September 30, 2017 are within expectations, but reflect added costs incurred related to our acquisition of iCOMS.

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 Latin America and Mexico segment. IRD has exposure to the U.S. dollar, Indian rupee, Chilean peso, Mexican peso, 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, 2017, IRD recorded foreign exchange losses of \$409 and \$695 respectively primarily reflecting the decline in the value of the U.S. dollar relative to the Canadian dollar and Chilean peso, which reduced the carrying value of U.S. dollar net assets. As at September 30, 2017, the fair value of embedded derivative assets on the contracts discussed above was \$31 on unearned revenue of \$0.22 million. As revenue is recognized on these contracts or the future value of the U.S. dollar changes compared to the Chilean and Mexican pesos, earnings will be affected.

IRD partially reduces its exposure to the U.S. dollar foreign exchange volatility relative to the Canadian dollar by maintaining a portion of its bank indebtedness in U.S. funds. In addition, from time to time, IRD enters into forward exchange contracts to sell U.S. dollars to fix its net accounts receivable denominated in this currency. The term of these forward contracts is of a short-term nature with the objective of matching the expected payments from customers. At September 30, 2017, IRD had no forward exchange contracts outstanding.

Foreign exchange translation gains or losses arising on consolidation of IRD's subsidiaries in Chile and India and its joint venture in China are recorded as accumulated other comprehensive income, which is a component of shareholders' equity.

Finance costs are comprised of interest charges on bank indebtedness and long-term debt. Interest costs will vary from month to month depending on the level of bank indebtedness and changes in interest rates.

Other expenses (income) is comprised of sundry non-operating receipts and 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. As a distributor for IRD's ITS manufactured goods, XPCT provides a strategic advantage to IRD to increase sales in the Chinese market.

For the three and nine months ended September 30, 2017, IRD recorded its share of XPCT's income of \$231 and \$300 respectively primarily due to 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, 2017, 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. No income tax recovery is recorded in IRD's India subsidiary due to uncertainty that sufficient future earnings will be generated to offset current and prior years' available tax losses prior to their expiry date.

### Factory Segment

Factory Segment	For the three months ended, September 30, 2017	For the nine months ended, September 30, 2017
Revenues	1,750	3,665
Cost of revenues (excluding depreciation and amortization)	495	896
	1,255	2,769
Selling, general and administrative	905	1,781
Research and development	639	999
Depreciation of property, plant and equipment	28	62
Amortization of intangibles	791	1,262
Results from operations	(1,108)	(1,335)
Finance expense	3	6
Foreign exchange loss	2	43
Loss before taxes	(1,113)	(1,384)
Current income tax expense (recovery)	(5)	34
Deferred income tax recovery	(291)	(485)
Income tax recovery	(296)	(451)
<b>Net loss</b>	<b>\$ (817)</b>	<b>\$ (933)</b>
Adjusted EBITDA	\$ 3	\$ 523

Our Factory segment comprises VIZIYA's operations for the period May 4, 2017 to September 30, 2017.

Revenues recorded in this segment for the third quarter and year to date were \$1.8 million and \$3.7 million respectively. For the current quarter, revenues consisted of \$0.3 million in software licenses, \$0.8 million in services revenues and \$0.7 million in software maintenance revenues.

As noted in the "Reconciliation of Adjusted EBITDA" section of this MD&A, the determination of the fair value of deferred revenue as at May 4, 2017 resulted in the deletion of \$0.9 million of revenue that VIZIYA would have recognized in its normal course of operations if we did not acquire it. Consequently, for the quarter and year to date revenues were reduced by \$0.2 million and \$0.5 million respectively. VIZIYA has approximately \$1.9 million of deferred revenue remaining at the end of the quarter which will be recognized as revenue over approximately the next 12 months. We also expect to continuously replenish and grow the deferred revenue on an annual basis and, as such, we anticipate increasing Recurring revenues beginning in 2018.

VIZIYA's product sales are generally to asset intensive industries including in the oil and gas, mining and heavy metals industries. These industries have generally been depressed over the past five to eight years which has made them more hesitant to make capital investments in new technologies such as those VIZIYA sells. Despite these economic difficulties, VIZIYA has been able to generate new product licenses, incremental services revenues and increased related recurring

maintenance revenue streams. VIZIYA is also seeing increased interest from their customers for the provision of their software through a subscription model which, when adopted, is expected to increase recurring revenue streams as we have defined them.

Cost of revenues (excluding depreciation and amortization) principally relates to the services revenues recorded and consists principally of employee costs for those employed in the provision of professional services. Operating expenses for the year to date include research and development expenses of approximately \$1.0 million which is principally employee costs, and \$1.8 million in selling, general and administrative costs. Based on current business expectations, this level of spending is expected to remain relatively flat for the duration of the current fiscal year.

Amortization of intangibles in the quarter and year to date, amounting to \$0.8 million and \$1.3 million respectively, relates to the customer, brand, and technology identified intangible assets arising on the acquisition of VIZIYA (please refer to the "Acquisitions" section of this MD&A). We add these expenses back in the determination of the Adjusted EBITDA as they relate solely to the acquisition and would not normally have been incurred in the operation of this software business. Adjusted EBITDA, as a result, is \$0.5 million for the year to date.

### 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, 2017	85,897	26,211	0.22	60,560	0.50
June 30, 2017	18,611	3,609	0.03	4,760	0.04
March 31, 2017	7,578	(7,229)	(0.06)	(2,187)	(0.02)
December 31, 2016	30,186	8,627	0.07	17,602	0.14
September 30, 2016	16,569	657	0.01	9,413	0.09
June 30, 2016	15,961	(3,152)	(0.03)	7,068	0.05
March 31, 2016	30,160	4,920	0.04	19,757	0.16
December 31, 2015	26,017	3,007	0.02	13,099	0.10

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

Historically, our quarterly revenues were affected by the amount and timing of fixed payment based licenses, the amount of running royalty based licenses, and any new lump sum payment based licenses signed in a quarter. Given these factors, quarterly revenues have fluctuated and have been difficult to predict. As a result of the creation of Quarterhill as a diversified investment holding firm, we now report a number of revenue streams. We believe this diversification may assist in mitigating the variability in our previous quarterly revenues. We do not have sufficient operating history in this diversified business to be able to identify any significant trends; however, with only four month of operations in our Mobility segment and five months in our Factory segment included in this quarter's results, it is reasonable to expect that revenues from these two segments should increase in the next quarter.

Historically, our operating results have fluctuated on a quarterly basis and we expect that quarterly results will continue to fluctuate in the future. The 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 factors affecting our revenue and results, many of which are outside of our control, include the factors set out in the "Risks and Uncertainties" section of this MD&A.

## CAPITAL AND LIQUIDITY

Cash and cash equivalents and short-term investments amounted to \$40.6 million at September 30, 2017, representing a decrease of \$67.1 million from the \$107.7 million held at December 31, 2016. The decrease is primarily attributable to \$67.4 million spent on the acquisitions of IRD, VIZIYA and iCOMS, the repayment of \$18.2 million in patent finance obligations, offset by cash generated from operations of \$20.8 million.

At September 30, 2017, we had working capital of \$83.4 million, contingent consideration payable of \$6.5 million, and long-term debt of \$0.5 million

Quarterhill has a revolving credit facility available in the amount of CDN\$8.0 million or the equivalent in U.S. dollars for general corporate purposes and a further CDN\$2.0 million 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. 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 nine months ended September 30, 2017, we had no borrowings under this facility.

The following bank indebtedness amounts were acquired as a result of the acquisition of IRD and VIZIYA:

	September 30, 2017	December 31, 2016
Revolving credit facility of \$7.0 million authorized and secured by a general security agreement:		
HSBC Bank Canada - Borrowing in Canadian dollars with interest at bank prime plus 1.5%	\$ 2,178	\$ -
HSBC Bank Canada demand term loan in Canadian dollars, repayable in quarterly installments of CDN\$32 with interest at bank prime plus 0.5%. Due September 30, 2021	438	-
HSBC Bank Canada demand term loan in Canadian dollars, repayable in quarterly installments of CDN\$75 with interest at bank prime plus 0.5%. Due May 31, 2022	1,142	-
TD Canada Trust Borrowing in Canadian dollars with interest at bank prime plus 2.0%	365	-
ING Bank, Euro revolving credit facility, interest at 3 month Euribor rate plus 2.25%	29	-
	\$ 4,152	\$ -

The following long-term debt amounts were acquired as a result of the acquisition of iCOMS:

	September 30, 2017	December 31, 2016
Nivelinvest Term Loan, repayable in quarterly installments of \$5.9, with interest at 5.95%	\$ 47	
SOGEPA Term Loans, repayable in total quarterly installment of \$9.8 with interest at 2.65% and 3.60%	91	\$ -
Region Wallonne Term Loan, repayable based on % sales of selected ICOMS products	100	
CBC Bank term loans, secured by assets of iCOMS to maximum of \$77 (Euro 65); repayable in total monthly installment of \$2.4, with interest from 2.05 to 2.37%	18	
ING Bank term loans, secured by assets of iCOMS to maximum of \$185 (157); repayable in total monthly installment of \$4.5, with interest from 1.5% to 2.4%	41	
Private loan, no fixed term of payment	195	
Less current portion	45	-
	447	-
Finance lease	54	-
	\$ 501	\$ -

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 CDN\$9.5 million or by way of U.S. dollar advances to a maximum of U.S. \$7.0 million. Borrowings on this facility are restricted to the lesser of \$7.0 million and the margin total on the following assets in Canada and the U.S., 90% of secured and government accounts receivable less than 120 days and 50% of inventory to a maximum of \$2.3 million. As at September 30, 2017 approximately \$3.5 million was available to be drawn.

IRD’s demand facility and long-term debt with HSBC are secured by a general security agreement on IRD’s assets held in Canada having a carrying value at September 30, 2017 of \$28.5 million. In addition, IRD’s subsidiaries in the United States, 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 quarterly); debt to tangible net worth less than 2.5 to 1 (tested quarterly); and debt service coverage ratio greater than 1.25 to 1 (tested annually) based on IRD’s financial results. At September 30, 2017, IRD is in compliance with these covenants.

VIZIYA has a credit facility through TD Canada Trust (“**TD**”) in the form of an operating line of credit in the amount of CDN \$0.5 million. This facility is secured by a general security agreement over VIZIYA and a floating charge on accounts receivable of VIZIYA, and is renewed annually. This facility bears interest at TD’s prime rate plus 2.00%, as well as a standby charge for any undrawn funds.

We plan to use our cash resources to fund our operations, provide incremental financing to any of our subsidiaries if needed, and to acquire additional businesses. Operating cash flows may vary significantly between periods due to changes in working capital balances. 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.

## **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, 2017, there were 118,627,249 Common Shares and no special or preferred shares issued and outstanding. We also maintain a Share Option Plan, an Employee Share Purchase Plan and a Deferred Stock Unit Plan. Under the Share Option 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, 2017, 11,862,724 Common Shares combined. The Common Shares authorized for issuance under the Employee Share Purchase Plan and the Deferred Stock Option Plan are limited to 800,000 and 430,000, respectively. As at September 30, 2017, we had options to purchase up to 5,924,559 Common Shares outstanding, 214,887 deferred stock units outstanding and have issued 636,100 Common Shares under our Employee Share Purchase Plan.

## **OFF-BALANCE SHEET ARRANGEMENTS**

As at September 30, 2017, IRD has identified the following off balance sheet arrangement: a loan guarantee in the amount of 7.5 million yuan (approximately \$1.1 million) for 50% of a bank loan to XPCT representing IRD’s proportionate interest in this entity.

XPCT’s Board of Directors has amended its articles of association to increase XPCT’s total registered capital by 45.0 million yuan or \$6.8 million. Unless otherwise amended, the term for contributing this increased capital of 22.5 million yuan or \$3.4 million per shareholder is by December 31, 2046. XPCT’s Board of Directors may increase, decrease, or transfer XPCT’s registered capital at any time.

---

## PROPOSED TRANSACTIONS

There are no proposed transactions.

## CRITICAL ACCOUNTING POLICIES, INCLUDING INITIAL ADOPTION OF POLICIES, AND CRITICAL ESTIMATES

Our management is required to make judgments, assumptions and estimates in applying our accounting policies and practices which have a significant impact on our financial results. The following outlines the accounting policies and practices involving the use of professional judgment and estimates that are critical to determining our financial results.

### *Revenue recognition*

We recognize revenue as earned when the following four criteria have been met: (i) when persuasive evidence of an arrangement exists, (ii) the product or license has been delivered to a customer and title has been transferred or the services have been rendered, (iii) the sales price is fixed or determinable, and (iv) collection is reasonably assured. In addition to this general policy, the following paragraphs describe the specific revenue recognition policies for each of our significant types of revenue arrangements.

### *Software and related service*

Revenue from perpetual licenses is recognized either upon delivery or over the estimated customer life, depending on whether we have obtained Vendor Specific Objective Evidence (“VSOE”) of fair value for the associated undelivered products bundled with the perpetual license. All of the deliverables under these licenses are accounted for in accordance with ASC Topic 985-605, “Software Revenue Recognition”.

When the VSOE of fair value has not been established for both delivered and undelivered elements, we use the residual method to recognize revenue if VSOE of fair value of undelivered elements is determinable. Revenue from software maintenance, unspecified upgrades and technical support contracts is recognized over the period that such items are delivered or those services are provided. Software revenue is recognized as license revenues on the statement of operations.

Revenue from renewals of support and maintenance contracts is recognized ratably over the contract term. Renewal and support revenue is recognized as recurring revenues on the statement of operations.

### *Royalties*

Revenue from royalties is recorded when the four major criteria of revenue recognition noted above are met.

Revenues from running royalty arrangements can be based on either a percentage of sales or number of units sold for which we earn revenues at the time licensees’ sales occur. Licensees are obligated to provide us with quarterly or semi-annual royalty reports and these reports are typically received subsequent to the period in which the licensees’ underlying sales occurred. Our licensees do not, however, report and pay royalties owed for sales in any given reporting period until after the conclusion of that reporting period. As we are unable to estimate licensees’ sales in any given reporting period to determine royalties due to them, we recognize running royalty revenues based on royalties reported by licensees during the quarter and when other revenue recognition criteria are met. We monitor the receipt of royalty reports to ensure that there is not a disproportionate number of months of revenue in any given fiscal year.

Revenues from fixed fee royalty arrangements may consist of one or more installments of cash. The timing and amount of revenue recognized from each licensee depends upon a variety of factors, including the specific terms of each agreement and the nature of the deliverables and obligations. Where agreements include multiple elements, we assess if the deliverables have standalone value upon delivery, and if so, we account for each deliverable separately. When

multiple-deliverables included in an arrangement are separated into different units of accounting, the arrangement consideration is allocated to the identified separate units based on a relative selling price hierarchy. We determine the relative selling price for a deliverable based on its best estimate of selling price (“BESP”). We determine BESP by considering its overall pricing objectives and market conditions. Significant pricing practices taken into consideration include discounting practices, the size and volume of transactions, the customer demographic, the geographic area covered by licenses, price lists, licensing strategy, historical standalone licenses and contracted royalty rates. The determination of BESP is made through consultation with and approval by management, taking into consideration the licensing strategy.

As part of the partnering agreements with third parties, we are able to recover certain out-of-pocket expenses and legal costs. These amounts are included in revenue in the years which the aforementioned revenue criteria are met and the amounts become reimbursable.

Revenue arrangements with extended payment terms, where fees are fixed in one or more installments of cash and which contain terms that could impact the amounts ultimately collected, are generally recognized as collection becomes assured.

#### *Contracted projects*

The majority of sales of integrated systems are delivered as contracted projects. We recognize contract revenue in accordance with ASC Topic 605-35, “Construction-Type and Production-Type Contracts”. Our contract types include fixed price and time and materials contracts. Contract revenue includes the initial amount agreed in the contract plus any amendments in contract work to the extent that it is probable they will result in revenue and can be reliably measured.

For fixed price contracts, when circumstances exist allowing us to make reasonably dependable estimates of contract revenues, contract costs and the progress of the contract to completion, we account for revenue under such long-term contracts using the percentage-of-completion (“POC”) method of accounting. Under the POC method, progress towards completion of the contract is measured based upon input measures. We measure progress towards completion based upon the cost incurred compared to the total estimated cost to complete. We will review the total estimated remaining costs to completion for each of these contracts and apply the impact of any changes on the POC prospectively. If, at any time, we anticipate the estimated remaining costs to completion will exceed the value of the contract, the resulting loss will be recognized immediately.

For time and materials contracts, labor and material rates are established within the contract. Revenues from time and materials contracts are recognized progressively on the basis of costs incurred during the period plus the estimated margin earned.

Contract costs include expenses that relate directly to fulfilling the requirements of a specific contract including materials costs, subcontractor costs, equipment rentals, engineering and project management labor, design and technical support labor, warranty costs, insurance and bond premiums. Contract costs are recognized in the period in which they are incurred unless they result in an asset related to future contract activity.

Unbilled revenue represents the excess of contract costs incurred and estimated gross profits recognized over billings to date. If progress billings received exceed costs incurred plus recognized gross profits, then the difference is presented as deferred revenue in the condensed consolidated interim statement of financial position. Project revenue is recognized as system revenues in the condensed consolidated interim statement of operations.

---

### *Product sales*

We recognize product sales in accordance with ASC Topic 605-15, "Products". Revenue from the sale of goods in the course of ordinary activities is measured at the fair value of the consideration received or receivable. Revenue for products is recognized when the four revenue recognition criteria noted above are met.

The timing of the transfers of risks and rewards varies depending on the individual terms of the contract of sale. For sales of products, transfer usually occurs when the product is received at the customer's warehouse. For some international shipments, when the buyer has no right of return, transfer occurs upon loading the goods onto the relevant carrier at the port of the seller. Product revenue is recognized as system revenues on the statement of operations.

### *Services revenue*

We recognize service revenue in accordance with ASC Topic 605-20, "Services". The scope of services is set forth in the contractual arrangements. These service contracts can be time and materials based contracts that range from one year to five years in length. Revenues from these services are recognized at the time such services are performed. We also enter into contracts that are primarily fixed fee arrangement. In such cases, the proportional performance method is applied to recognize revenues.

### *Multiple-element arrangements*

We enter into revenue arrangements that may consist of multiple deliverables of its product and service offerings. Our typical multiple-element arrangements involve: (i) software with maintenance services, and (ii) projects with maintenance service and extended warranties.

For our arrangements involving multiple deliverables, the consideration from the arrangement is allocated to each respective element based on its relative selling price, using VSOE. In certain limited instances when we are unable to establish the selling price using VSOE, we attempt to establish the selling price of each element based on acceptable third-party evidence of selling price ("TPE"); however, we are generally unable to reliably determine the selling prices of similar competitor products and services on a stand-alone basis. In these instances, we use BESP in our allocation of arrangement consideration, where permitted. The objective of BESP is to determine the price at which we would transact a sale if the product or service was sold on a stand-alone basis.

If we are unable to determine VSOE for all of the deliverables of the arrangement, but can obtain VSOE for all undelivered elements, revenue is allocated using the residual method. Under the residual method, the amount of revenue allocated to delivered elements equals the total arrangement consideration, less the aggregate fair value of any undelivered elements.

If VSOE of any undelivered software element does not exist, revenue from the entire arrangement is deferred and recognized at the earlier of: (i) delivery of those elements for which VSOE did not exist; or (ii) when VSOE can be established.

We determine BESP for a product or service by considering multiple factors including, but not limited to, historical pricing practices for similar offerings, market conditions, competitive landscape, internal costs, gross margin objectives and pricing practices. The determination of BESP is made through consultation with, and formal approval by, our management, taking into consideration our marketing strategy. We regularly review VSOE, TPE and BESP.

### *Investment Tax Credits*

At September 30, 2017, we have approximately \$6,359 (December 31, 2016 - \$5,647) of non-refundable investment tax credits carried forward, relating primarily to past R&D. These credits can be applied against future income taxes payable and are subject to a 20-year carry-forward period. Judgment is required in determining the amount of unutilized investment tax credits to record as an asset. In assessing the potential utilization of investment tax credits, we have

considered whether it is more likely than not that some portion or all of the unutilized investment tax credits will be realized based upon estimates of our anticipated income tax position in future periods. We will continue to evaluate our future income tax position quarterly and record any adjustment necessary in that period.

#### *Valuation of Deferred Income Tax Assets and Deferred Income Tax Expense/Recovery*

As at September 30, 2017, our subsidiaries had accumulated \$22,128 of unused R&D expenditures for income tax purposes. These deductions are available without expiry to reduce future year's taxable income. Including the unused R&D expenditures and investment tax credits noted above, we had approximately \$72.5 million of temporary differences and tax losses available for carry forward. As a result, as at September 30, 2017, we have a deferred income tax asset of \$30.7 million of which \$9.7 million (net) has been recorded. Judgment is required in determining the amounts of deferred income tax assets and liabilities and the related valuation allowance recorded against the net deferred income tax assets. In assessing the potential realization of deferred income tax assets, we consider all available evidence, both positive and negative. The realization of deferred tax assets is dependent on our ability to generate sufficient future taxable income during periods prior to the expiration of tax attributes to fully utilize these assets. Our forecasted future operating results are highly influenced by, among other factors, assumptions regarding (1) our ability to achieve forecasted revenue, (2) our ability to effectively manage our expenses relative to our forecasted revenue and (3) market conditions in the segments in which we operate. We considered both positive and negative evidence and based on revenue from existing contracts and spending managed to the revenue levels determined future taxable income will be sufficient to utilize existing tax attributes in each of our subsidiaries.

We assess the probability that deferred income tax assets will be recovered from future taxable income, and whether a valuation allowance is required to reflect any uncertainty at each reporting period within each subsidiary. We will continue to evaluate our deferred income tax position quarterly and record any adjustment necessary in that period. As at September 30, 2017, we had a valuation allowance of \$17.3 million primarily related to net operating losses and capital losses in certain operating subsidiaries which we have assessed as more likely than not that these losses will not be utilized.

#### *Patents*

We have acquired patents and patent rights (collectively, "**patents**") directly or through business acquisitions. In determining the fair value of these patents, we make estimates and judgments about the future income-producing capabilities of these assets and related future cash flows. We also make estimates about the useful lives of these assets based on assessment of the legal and economic lives of the patents and potential future licensing revenues achievable from our patent portfolios. Our patent portfolios as at September 30, 2017 are being amortized on a straight-line basis over the remaining useful lives of the patents which range from approximately one to nine years. If our basis for assessing the useful lives of the intangibles and potential future licensing revenues achievable from our patent portfolio is adversely affected by future events or circumstances, we will record write-downs of patents, write-down of other intangible assets, or changes in the estimated useful lives of these assets, which would result in changes to amortization expense in the future. Such changes would not affect cash flows.

The carrying value of patents is reviewed for impairment when events or circumstances indicate that the carrying amount may not be recoverable. Impairments are determined by comparing the carrying value to the estimated undiscounted future cash flows to be generated by those assets. If this assessment indicates that the carrying value of the patents is not recoverable, the carrying value is then compared with the estimated fair value of the assets, and the carrying value is written down to the estimated fair value.

#### *Goodwill*

Goodwill is subject to annual impairment tests or on a more frequent basis if events or conditions indicate that goodwill may be impaired. As noted elsewhere in this MD&A, we consider that we now operate in three reportable segments. We carry goodwill in each of these segments.

*Estimation uncertainty*

Critical accounting policies and estimates utilized in the normal course of preparing our consolidated financial statements require the determination of the best estimate of selling price, future cash flows utilized in assessing net recoverable amounts and net realizable values, determination of discount rates, amortization, allowance for bad debts, legal contingency estimate, useful lives of property, equipment and intangible assets, valuation of intangibles, valuation of debt securities, determination of indicators of impairment assessments and related impairment assessments, assumptions used in determining the fair value of stock options granted, timing of payments related to patent finance obligations and measurement of deferred taxes. In making estimates, management relies on external information and observable conditions where possible, supplemented by internal analysis where required.

These estimates have been applied in a manner consistent with that in the prior periods and there are no known trends, commitments, events or uncertainties that we believe will materially affect the methodology or assumptions utilized in the consolidated financial statements. The estimates are impacted by many factors, some of which are highly uncertain. The interrelated nature of these factors prevents us from quantifying the overall impact of these movements on our financial statements in a meaningful way. These sources of estimation uncertainty relate in varying degrees to virtually all asset and liability account balances.

Critical accounting estimates are defined as estimates that are very important to the portrayal of our financial position and operating results and require management to make judgments based on underlying assumptions about future events and their effects.

These underlying assumptions are based on historical experience and other factors that we believe to be reasonable under the circumstances and are subject to change as events occur, as additional information is obtained and as the environment in which we operate changes.

Critical accounting estimates and accounting policies are reviewed annually or more often if needed, by the Audit Committee.

*Recent accounting pronouncements*

See Note 2, "Significant Accounting Policies", of Notes to Unaudited condensed consolidated interim financial statements for a full description of recent accounting pronouncements including the respective expected dates of adoption.

**DISCLOSURE CONTROLS AND PROCEDURES**

In conformance with National Instrument 52-109 – Certification of Disclosure in Issuers' Annual and Interim Filings of the Canadian Securities Administrators, we have filed certificates signed by our Interim Chief Executive Officer ("CEO") and Interim Chief Financial Officer ("CFO") that, among other things, deal with the matter of disclosure controls and procedures.

Disclosure controls and procedures have been designed under the supervision of our CEO and CFO, with the participation of other management, to provide reasonable assurance that all relevant information we are required to disclose is recorded, processed, summarized and reported on a timely basis to senior management, as appropriate, to allow timely decisions regarding required public disclosure.

An evaluation of the effectiveness of our disclosure controls and procedures was carried out under the direction of our CEO and CFO. Based on this evaluation, our CEO and the CFO concluded that the design and operation of these

---

disclosure controls and procedures were effective. This evaluation considered our disclosure policy, a certification process implemented with our subsidiaries and the functioning of Quarterhill's Disclosure Committee.

## **MANAGEMENT'S REPORT ON INTERNAL CONTROLS OVER FINANCIAL REPORTING**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, our CEO and CFO to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Because of its inherent limitations, however, internal control over financial reporting may not prevent or detect misstatements on a timely basis.

Our management evaluated, under the supervision of our CEO and CFO, the effectiveness of our internal control over financial reporting as at September 30, 2017. We based our evaluation on criteria established in "Internal Control over Financial Reporting - 2013" issued by the Committee of Sponsoring Organizations of the Treadway Commission and, based on that evaluation, we have concluded that, as of September 30, 2017, our internal control over financial reporting is effective.

## **CHANGES IN INTERNAL CONTROLS**

There have been no changes in our "internal control over financial reporting" that occurred during the three months ended September 30, 2017 which have materially affected or are reasonably likely to materially affect the internal control over financial reporting.

Quarterhill Inc.  
303 Terry Fox Drive, Suite 300  
Ottawa, ON Canada  
K2K 3J1

Tel: 1.613.688.1688

Fax: 1.613.688.4894

[www.quarterhill.com](http://www.quarterhill.com)

---