



QUARTERHILL INC.
ANNUAL INFORMATION FORM
FOR THE YEAR ENDED DECEMBER 31, 2022

MARCH 22, 2023

Table of Contents

General Matters	3
Forward-Looking and Other Statements.....	3
Glossary of Certain Terms.....	4
1. Corporate Structure.....	5
2. Intercorporate Relationships.....	5
3. General Development of the Business	6
Overview.....	6
4. Description of the Business.....	14
Risk Factors.....	17
5. Dividends.....	32
6. Capital Structure	32
Common Shares.....	33
Special Preferred Shares.....	33
Preferred Shares	33
Convertible Debentures.....	33
7. Market for Securities.....	34
Trading Price and Volume of Common Shares.....	34
Trading Price and Volume of Convertible Debentures.....	34
8. Directors and Officers	35
Directors.....	35
Executive Officers	36
Cease Trade Orders, Bankruptcies, Penalties or Sanctions.....	37
9. Audit Committee Information.....	38
Audit Committee Charter	38
Composition.....	38
Education and Experience.....	38
Pre-approval of Non-Audit Services	39
Information Security Matters	39
10. Legal Proceedings	40
11. Interests in Material Transactions	40
12. Transfer Agent and Registrar	40
13. Material Contracts.....	40
14. Interests of Experts.....	41
15. Additional Information	41
Appendix "A" – Audit Committee Mandate.....	42

General Matters

In this Annual Information Form, unless otherwise noted or the context otherwise indicates, the terms "**we**", "**us**", "**our**" and "**Quarterhill**" refer to Quarterhill Inc. and our subsidiaries.

In this Annual Information Form, references to "**Common Shares**" refer to the common shares in the capital of Quarterhill and references to the "**Board**" refer to Quarterhill's Board of Directors.

Unless otherwise specified, all information in this Annual Information Form is presented at December 31, 2022 and references to specific years are to our fiscal years ended December 31.

Unless otherwise indicated, all financial information in this Annual Information Form is reported in Canadian dollars.

Market data and industry forecasts used in this Annual Information Form were obtained from various publicly available sources. Although we believe these independent sources are generally reliable, the accuracy and completeness of such information are not guaranteed and have not been independently verified.

"Quarterhill", "Electronic Transaction Consultants", "ETC", "Icoms Detections", "International Road Dynamics", "PAT Traffic", "Sensor Line", "VDS", "Wi-LAN" and "WiLAN", are some of our trade names and each of "Electronic Transaction Consultants", "ETC", "International Road Dynamics", "IRD" and "Wi-LAN" is a registered trademark in Canada and/or the United States. This Annual Information Form also includes references to trade names and trademarks of other companies, which trade names and trademarks are the properties of their respective owners.

Forward-Looking and Other Statements

From time to time, we may make written or oral forward-looking statements within the meaning of applicable Canadian securities laws. We may make forward-looking statements in this Annual Information Form, in other filings with Canadian securities regulators, in reports to shareholders and in other communications.

Forward-looking statements in this Annual Information Form include, without limitation, statements relating to our acquisition strategy, financial performance objectives, vision and strategic goals and the outlook and priorities for our businesses. The forward-looking information contained in this Annual Information Form is presented to assist readers in understanding our financial position and results of operations as at and for the periods ended on the dates presented, as well as our acquisition strategy, financial performance objectives, vision and strategic goals, and may not be appropriate for any other purposes. Forward-looking statements are sometimes identified by words such as "anticipate", "believe", "estimate", "expect", "foresee", "forecast", "goal", "intend", "plan", "project" and variations of such words and similar expressions together with future or conditional verbs such as "will", "may", "could", "should" or "would". In addition, any statements or information that refer to expectations, beliefs, plans, projections, objectives, performance or other characterizations of future events or circumstances, including any assumptions underlying those statements or information, are all forward-looking.

The forward-looking statements in this Annual Information Form are based on management's perception of historic trends, current conditions and expected future developments, as well as other assumptions that management believes may be appropriate in the circumstances.

By their nature, forward-looking statements require us to make assumptions and are subject to inherent risks, uncertainties and other factors, including those which may arise in the future and all of which give rise to the possibility that our predictions, forecasts, projections, expectations and/or conclusions may not prove to be accurate, that our assumptions may not be correct and/or that our financial performance objectives, vision and/or strategic goals will not be achieved. We caution readers not to place undue reliance on these forward-looking statements as a number of risk factors could cause our actual results to differ materially from the expectations contained in those statements. These risk factors, many of which are beyond our control and effects of which can be difficult to predict, include the factors more fully described under the heading "Risk Factors" in this Annual Information Form.

We also caution that the list of risk factors referenced above is not exhaustive and other factors could also adversely affect our results. If relying on any of our forward-looking statements to make decisions with respect to us or our Common Shares or Convertible Debentures, investors and others should carefully consider the risk factors referenced above and other uncertainties and potential events. Except as required by law, we do not undertake to update any forward-looking statement, whether written or oral, that we may make from time to time or that may be made on our behalf.

Glossary of Certain Terms

In addition to the terms defined in the body of this Annual Information Form, the following terms used in this Annual Information Form have the meanings set forth below unless otherwise specified.

"Amalgamated Subsidiaries" means the CBCA corporations 8540098 Canada Inc., 8568545 Canada Inc., 8631654 Canada Inc., Maple Vision Technologies Inc., Quarterhill Inc. (prior to June 1, 2017), Treehouse Avatar Technologies Inc. and Wi-LAN Canada Inc.

"CBCA" means the *Canada Business Corporations Act*.

"DGCL" means the General Corporation Law of the State of Delaware.

"DRAM" means Dynamic Random-Access Memory.

"ETC" means Electronic Transaction Consultants, LLC.

"IRD" means the CBCA corporation International Road Dynamics Inc.

"IRD Europe" means International Road Dynamics Europe GmbH.

"Nasdaq" means the Nasdaq Global Select Market.

"Old WiLAN" means the CBCA corporation Wi-LAN Inc. as it was prior to June 1, 2017 before its amalgamation with the Amalgamated Subsidiaries.

"PAT Traffic" means PAT Traffic Ltda.

"Polaris" means Polaris Innovations Limited.

"Quarterhill ITS" means the CBCA corporation Quarterhill ITS Inc.

"Quarterhill USA" means Quarterhill USA, Inc. incorporated under the DGCL.

"Sensor Line" means Sensor Line - Gesellschaft für Optoelektronische Sensoren mbH.

"TSX" means the Toronto Stock Exchange.

"U.S. Exchange Act" means the United States *Securities Exchange Act of 1934*, as amended.

"VDS" means VDS Verkehrstechnik GmbH.

"WiLAN" means the CBCA corporation Wi-LAN Inc. existing on and following June 1, 2017 that was, prior to June 1, 2017, named 8540578 Canada Inc.

1. Corporate Structure

Quarterhill was formed under the CBCA on June 1, 2017 by the amalgamation of Old WiLAN with the Amalgamated Subsidiaries. Prior to June 1, 2017, each of the Amalgamated Subsidiaries was a wholly owned subsidiary of Old WiLAN. On April 27, 2022, Quarterhill amended its articles to permit the Board to call and hold meetings of its shareholders in Canada or in any state in the United States in which Quarterhill or any of its subsidiaries has a physical office, which amendment was approved by Quarterhill's shareholders on April 21, 2022.

Old WiLAN was continued as a corporation under the CBCA on August 2, 2007 and was amalgamated with Wi-LAN V-Chip Corp., Wi-LAN Technologies Corporation and 7248091 Canada Inc. under the CBCA on October 1, 2009. Old WiLAN was originally incorporated under the *Business Corporations Act* (Alberta) as 529144 Alberta Ltd. on May 14, 1992 and amended its articles to change its name to "Wi-LAN Inc." on November 9, 1992. Old WiLAN also amended its articles: on October 3, 1994 to remove the prohibition on inviting the public to subscribe for its securities; on October 20, 1995 to reorganize its share capital; and on March 24, 1998 to remove its remaining private company restrictions and to further reorganize its share capital.

Our head and registered office is located at 25 King Street West, Suite 1101, Toronto, Ontario, Canada.

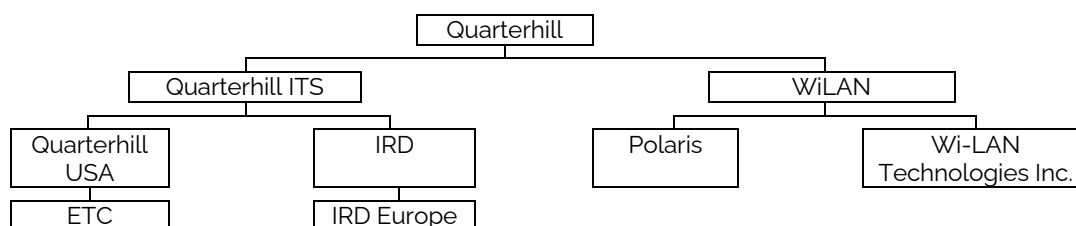
We maintain a website at www.quarterhill.com and our operating subsidiaries also maintain their own Internet websites to provide general and marketing information to our existing and potential shareholders and customers. None of the information on any of these websites is or should be considered part of, or incorporated by reference into, this Annual Information Form.

2. Intercorporate Relationships

Quarterhill has the following significant subsidiaries:

- ETC, existing under the Limited Liability Company Act of the State of Delaware and a direct subsidiary of Quarterhill USA;
- IRD, incorporated under the CBCA and a direct subsidiary of Quarterhill ITS;
- IRD Europe, incorporated under the laws of the Federal Republic of Germany and a direct subsidiary of IRD;
- Quarterhill ITS, incorporated under the CBCA;
- Quarterhill USA, incorporated under the DGCL and a direct subsidiary of Quarterhill ITS;
- WiLAN, incorporated under the CBCA;
- Polaris, incorporated under the Companies Act of the Republic of Ireland and a direct subsidiary of WiLAN; and
- Wi-LAN Technologies Inc., incorporated under the DGCL and a direct subsidiary of WiLAN.

Each of these subsidiaries is directly or indirectly wholly owned by Quarterhill and their relationships with Quarterhill can be expressed as set out in the diagram below.



3. General Development of the Business

Overview

Quarterhill is a growth-oriented Canadian company listed on the TSX (TSX: QTRH and QTRH.DB) and the OTCQX Best Market (OTCQX: QTRHF) operating in the intelligent transportation system and intellectual property licensing industries. Quarterhill's objective is to be a global leader in the rapidly growing intelligent transportation systems industry (the "ITS Industry") by organically growing its existing tolling and enforcement businesses, while also working to acquire other companies in the ITS Industry that provide an even stronger foundation for growth. Quarterhill targets acquisition opportunities in the ITS Industry that have reasonable valuations, recurring revenues, predictable cashflows and gross profit, industry leading technologies, intimate customer relationships and dedicated management teams among other considerations. In appropriate circumstances, we may also divest certain assets if favourable conditions for such a divestiture are presented. To gain efficiencies and solidify our platform for further growth, Quarterhill launched an integration program in 2022 across our ITS Industry operating subsidiaries to help create a shared services organization providing centralized finance, information technology, legal and human resources support.

Intelligent Transportation Systems

The ITS Industry is a developing, multi-disciplinary technology area growing alongside, among other things, existing analog and digital technologies, population growth, burgeoning public and private vehicle ownership, environmental and economic concerns, national security interests and the availability and connectedness of fixed, mobile and handheld equipment and networks.

An "intelligent transportation system" is a combination of information and communication technologies applied in transportation networks and infrastructure to facilitate vehicle-to-vehicle and vehicle-to-infrastructure communication and the collection and transfer of information. Intelligent transportation systems can enhance safety, traffic management and environmental performance of roadways, railways, aviation and maritime transportation. The ITS Industry benefits different means of transportation, including roadways, railways, aviation and maritime, aiming to provide improved safety, mobility and efficiency across these transportation networks. The ITS Industry comprises companies that offer various intelligent transportation system products, solutions and services. Many of these companies both collaborate and compete with one another.

For any jurisdiction, enabling population mobility safely and efficiently while minimizing negative environmental impact is a key priority. Quarterhill management believes there is over a trillion-dollar gap between infrastructure funding and infrastructure needs in the United States alone, and that intelligent transportation systems can provide and are providing a growing source of revenues for governments at all levels to help bridge that gap through both traditional tolling and emerging user-funded infrastructure programs. Providing residents with intelligent transportation systems can also save their time, help make economic progress and make cities more efficient. Intelligent transportation systems aim to reduce traffic congestion and greenhouse emissions, increase safety, reduce travel time and make the travel experience more convenient.

Based on market research, Quarterhill management believes the global ITS Industry market is expected to grow from more than US\$42.2 billion in 2021 to exceeding US\$68 billion by 2026, at a compound annual growth rate of 10% between 2021 and 2026¹. Factors such as infrastructure stimulus spending, increasing concern for public safety, traffic congestion problems, initiatives taken by governments for effective traffic management, increasing concerns about protecting the environment and the development of smart cities across the world appear to be the current major driving forces for the ITS Industry.

Our current ITS Industry operating subsidiaries are ETC, IRD and IRD's subsidiaries.

ETC has been a leading provider of tolling and mobility systems for more than 20 years to some of the largest tolling authorities in the United States, including to tolling authorities in California, Georgia, Illinois and Texas. ETC's flexible riteSuite™ software platform enables authorities to customize operations to their specific needs, with features that include "All Electronic Tolling", dynamic pricing, agency interoperability, hosted mobility solutions and machine learning. ETC's platform processes more than two billion transactions annually representing more than US\$2.5 billion in toll billings across more than 1,100 toll lanes in the United States. ETC's back-office, reporting and interoperability technology complements IRD's widely deployed lane-embedded sensors and toll audit systems.

¹ "Intelligent Transportation System Market with COVID-19 Impact Analysis – Global Forecast to 2026", MarketsandMarkets, October 2021, p. 45.

IRD is working to make highways and cities safer, greener and more efficient. IRD is known globally as a trusted partner providing sales, service, and installation support on major ITS projects for over 40 years and contributes to creating smarter cities by empowering engineering and urban planning professionals to access reliable traffic data. IRD provides a portfolio of integrated hardware and software solutions to detect, measure and analyze a variety of transportation metrics. IRD has established a network of operations, relationships and installed systems in strategic geographic regions around the world using its technologies including its Weigh-In-Motion and vehicle measurement technologies that detect, classify and weigh vehicles at highway speeds. IRD's product offerings include automated systems for commercial vehicle operations at truck weigh stations, border crossings, highway traffic data collection, smart cities and highway toll collection systems around the world for such customers as government transportation agencies, traffic engineering consultants and operators, city and municipal agencies, concessionaires, and industrial, mining and transportation companies.

Intellectual Property Licensing

Our intellectual property licensing subsidiary, WiLAN, is a leading technology innovation and licensing company that partners with its customers to unlock the value of intellectual property through various patent monetization models. Since its founding in 1993, through internal technology development, acquisitions and strategic partnerships with third parties, WiLAN currently owns, directly or indirectly, more than 3,374 patents and patent applications in many different countries, for many of which it has granted licenses to more than 350 companies in many technology markets around the world.

A cycle of innovation and commercialization of innovative technology drives the creation of products, services, markets and, ultimately, economic value. The commercialization of technology has helped to establish a large market for licensing patented inventions to the designers, manufacturers and/or sellers of products and services that use these inventions in their products and services. Both directly and through its wholly owned subsidiaries, WiLAN develops, acquires and commercializes innovative patented technologies that it believes hold value and also works with third party partners to monetize such patents in various ways which often involve sharing revenues and the financial risk associated with licensing these patents with third party partners. From time to time, WiLAN also sells selected patents as an alternative means of monetization.

Current WiLAN patent portfolios include patents relating to wireless communications, memory interface technologies, semiconductor manufacturing and packaging technologies, wired connectivity and automotive applications, computer gaming, intelligent personal assistant technologies, enhanced image processing, streaming video technologies, non-volatile Flash memory, DRAM and other memory technologies as well as semiconductor analog circuitry technologies.

WiLAN's license agreements generally grant rights to patents that are relevant to a licensee's products and services as well as granting releases for past sales of relevant products and services. Related license consideration payments may be one-time lump-sum payments, a series of set payments made over a specified period or running royalties based on a price per-unit and/or a percentage of product sales or service revenues reported by licensees. The consideration for a license may vary significantly with different licensees because there are many factors that may make license consideration and other terms differ. Although WiLAN prefers to negotiate license agreements without litigation, to ensure it receives fair consideration for the use of its patented technologies, WiLAN may, in appropriate circumstances, rely on litigation to enforce its patent rights with the ultimate goal of signing license agreements.

On December 15, 2021, we announced that we planned to hire investment bankers to conduct a strategic review of WiLAN to consider such alternatives as changes to WiLAN's corporate structure, the acquisition or disposition of WiLAN assets, a going private transaction, joint ventures, the sale of WiLAN and/or alternative operating models among other potential alternatives. On March 7, 2022, we announced that Stout Capital, LLC had been retained as financial advisor for the WiLAN strategic review process. There can be no assurance that this process will result in the completion of any transaction or any other alternative.

Acquisition Strategy

Quarterhill is working to acquire and manage financially attractive technology companies in the ITS Industry and its adjacent markets to become a global leader in this space.

We are focusing our business on building a consistently profitable company through the acquisition, management and growth of companies in the ITS Industry and its adjacent markets, with an emphasis on seeking acquisition opportunities that provide a foundation for growth and that have reasonable valuations, recurring revenues,

predictable cashflows and gross profit, intimate customer relationships and dedicated management teams among other considerations. In appropriate circumstances, we may also divest certain assets if favourable conditions for such a divestiture are presented.

Significant Developments in 2022 and Recently in 2023

On March 20, 2023, Quarterhill announced that Bret Kidd was immediately stepping down as our President & Chief Executive Officer and a member of the Board and that John Gillberry, Chair of the Board, had been named Quarterhill's Interim Chief Executive Officer. We also announced that the Board had formed a CEO search committee to conduct a search to select our next CEO and would be engaging an executive recruiting firm to assist with this process. In addition, we announced that our consolidated revenue for fiscal 2022 was expected to be in a range of \$303 to 307 million with Adjusted EBITDA (as defined in the March 20, 2023 press release) expected to be in a range of \$63 to 66 million.

On December 13, 2022, further to its previous August 16, 2022 announcement, ETC announced that it had signed a contract with the Alameda County Transportation Commission ("**Alameda CTC**") for the implementation and operation of the electronic toll system integration services for the I-680 Express Lanes in Alameda County, California, south-east of San Francisco.

On November 3, 2022, IRD announced that it had been awarded two separate contracts with a combined value of \$3.3 million for advanced E-Screening systems incorporating IRD's Tire Anomaly and Classification System with the South Dakota Department of Transportation and the Nebraska Department of transportation respectively.

On October 21, 2022, WiLAN announced that its wholly-owned subsidiaries Innovative Memory Solutions Inc., North Star Innovations Inc. and Cetus Technologies Inc. had entered into a license and settlement agreement with Micron Technology, Inc. providing licenses generally relating to semiconductor technologies and settling and dismissing all pending litigation in the United States and China.

On August 30, 2022, we announced that the International Bridge, Tunnel & Turnpike Association had awarded ETC with the 2022 Toll Excellence Award for Private Sector Innovation for ETC's accounts receivable management application for the Harris County Roll Road Authority.

On August 16, 2022, we announced that the Alameda CTC had announced its final ranking notification and "intent to award" ETC with an expected 10-year contract for the implementation and operation of electronic toll system integration services for certain highway express lanes.

On July 25, 2022, IRD announced that the New York State Department of Transportation had awarded it a 2 year, \$13.8 million contract for installation and maintenance of permanent traffic data collection systems across New York state.

On July 6, 2022, WiLAN announced it had entered into a license agreement with a company in the automotive industry with respect to patents relating to wireless technology.

On June 20, 2022, IRD announced the award of a \$2.2 million contract with the Idaho Transportation Department to supply and install Weigh-in-Motion and Electronic Pre-Clearance systems.

On May 24, 2022, we announced the appointment of John Karnes as Quarterhill's new Chief Financial Officer.

On May 12, 2022, we announced the appointment of Kim Stevenson to the Board.

On May 12, 2022, we announced the appointment of Andrew Parolin as WiLAN's new Chief Executive Officer.

On May 11, 2022, IRD announced that it had been awarded 2 contracts having an aggregate value of \$1.2 million for Weigh-in-Motion system upgrades for the Illinois State Toll Highway Authority to be used by the Illinois State Police to monitor commercial vehicles for weight and tire violations.

On May 4, 2022, we announced the sudden and untimely passing of our friend Michael Vladescu, WiLAN's Chief Executive Officer.

On April 19, 2022, IRD announced the award of a 4 year quantity purchase agreement from the Indiana Department of Transportation having a value of an estimated \$10.8 million relating to building, reconstructing, testing and

maintaining various Traffic Data Collection and Weigh-in-Motion systems operated by the Indiana Department of Transportation.

On April 18, 2022, ETC announced having signed a contract with the Triborough Bridge and Tunnel Authority for the implementation and operations of the E-ZPass Interoperability Hub having a 10 year term with one 3 year option and an initial value of approximately US\$21.5 million.

On March 31, 2022, WiLAN announced that Kyocera Corporation had entered into a new multi-year wireless license with WiLAN, further to a license signed between WiLAN and Kyocera Corporation in December 2015.

On March 25, 2022, IRD announced that its Belgian Icoms Detections S.A. subsidiary ("**Icoms**") had delivered its 250th TMA-3B3 LiDAR-based connected bicycle sensor system in Europe, with installations in the Netherlands, Belgium, France, Italy, Portugal and the UK.

On March 22, 2022, WiLAN and Polaris announced a new patent license agreement with Apple Inc. ("**Apple**") including the settlement and dismissal of all litigation pending between WiLAN and Polaris and Apple in the United States, Canada and Germany.

On March 18, 2022, we announced that we would now release our results for the three- and twelve- month periods ended December 31, 2021 on March 21, 2022.

On March 8, 2022, we announced that, as a result of staffing challenges, our auditor, Ernst & Young LLP, had requested an extension from Quarterhill to complete its audit of our financial statements for the year ended December 31, 2021 and that we would now release our results for the three- and twelve- month periods ended December 31, 2021 on March 22, 2022.

On March 7, 2022, we announced that the Board's Special Committee had retained Stout Capital, LLC as its financial advisor for the WiLAN strategic review process. Strategic alternatives to be considered in that process may include changes to WiLAN's corporate structure, the acquisition or disposition of assets, a going private transaction, joint ventures, the sale of WiLAN and/or alternative operating models among other potential alternatives.

On March 7, 2022, IRD announced that it had been awarded a four-year Quantity Purchase Agreement with a value estimated in excess of \$5.5 million to provide electronic equipment, software and services required to build, reconstruct, test, calibrate and maintain Weigh-in-Motion and Virtual Weigh-in-Motion systems for the Indiana Department of Transportation.

On March 3, 2022, we announced that the Board had appointed Rusty Lewis, an ITS industry veteran having held board, CEO and senior executive leadership roles in the ITS, technology and finance industries, to the Board with effect on March 3, 2022.

On February 18, 2022, ETC announced that it had signed a contract with the Alameda CTC to provide an interim electronic toll collection system and maintenance services on the interstate highway 680 express lanes in Alameda County, California for an initial term of two years and a value of approximately US\$4 million for implementation and amendments to follow for maintenance, all subject to customary terms and conditions.

On February 4, 2022, WiLAN announced it had received a decision from the United States Court of Appeal for the Federal Circuit (the "**CAFC**") in the appeal before the CAFC of WiLAN's United States patent infringement litigation with Apple in the United States District Court of the Southern District of California (the "**District Court**"). WiLAN announced that in its decision, the CAFC agreed with WiLAN's claim construction arguments relating to the patents involved in the litigation, agreed with WiLAN's arguments relating to infringement by certain Apple products of these patents and agreed with WiLAN's arguments to reverse the District Court's partial summary judgment of non-infringement with respect to certain Apple products containing certain Intel Corp. wireless chips, thereby making certain additional Intel-based Apple products available for inclusion in a final damages award. WiLAN further announced that the CAFC ruled against WiLAN with respect to certain assumptions made by WiLAN's damages expert in calculating the damages amount presented to the jury in the District Court damages trial and, as a result, remanded the case back to the District Court for another trial focusing on the amount of damages Apple will be required to pay.

On January 31, 2022, we announced that the Orange County Transportation Authority had signed a contract awarding "Back Office System and Customer Service Center Operations Services for the 405 Express Lanes in

Orange County, California to WSP USA and that ETC is a major subcontractor to WSP USA on this project, which subcontract was valued at US\$49.3 million with an initial term of up to 9 years with options to extend the subcontract by up to 5 years, all subject to customary terms and conditions.

On January 31, 2022, we announced that our Chief Financial Officer, John Rim, was leaving Quarterhill to pursue other interests, that the Board was engaging an executive search firm to recruit a new Chief Financial Officer, that Mr. Rim had agreed to support an orderly transition and that Stephen Thompson, WiLAN's Senior Vice President, Finance had been appointed as our interim Chief Financial Officer while it undertakes its search for a new permanent Chief Financial Officer. Mr. Thompson had previously served as Quarterhill's interim Chief Financial Officer in 2017.

Significant Developments in 2021

On December 31, 2021, WiLAN announced that Polaris had entered into a license agreement with Marvell Technology Inc. related to memory interface technologies.

On December 20, 2021, ETC announced that it had named Kevin Holbert as its chief executive officer following our announcement that Bret Kidd, ETC's former chief executive officer, had been appointed as Quarterhill's Chief Executive Officer.

On December 17, 2021, ETC announced it had received an award notice to provide electronic toll collection integration and maintenance services to the Central Texas Regional Mobility Authority in Austin, Texas for an initial term of six years with two two-year extension options, with the initial term valued at US\$72,791,680, all subject to customary terms and conditions.

On December 15, 2021, we announced a plan to accelerate Quarterhill's transition to a growth-oriented business focusing on the ITS Industry, as part of which: (1) Bret Kidd, ETC's chief executive officer, would be promoted to Quarterhill's Chief Executive Officer and be appointed to the Board; (2) Quarterhill's corporate office would be integrated with ETC's corporate office; (3) Paul Hill would leave Quarterhill immediately and resign from the Board; and (4) we planned to retain investment bankers to conduct a strategic review of WiLAN which may include changes to its corporate structure, the acquisition or disposition of assets, a going private transaction, joint ventures, the sale of WiLAN and/or alternative operating models among other potential alternatives.

On December 6, 2021, IRD announced that it had appointed Heimo Haub as Managing Director for its IRD Europe subsidiary.

On November 23, 2021, WiLAN announced that one of its wholly-owned subsidiaries had acquired a patent portfolio from a publicly-traded leader in semiconductor technologies, which acquired patents relate to wired connectivity functionalities including various USB-C technologies used in a wide range of applications such as desktop and laptop computers, tablets, mobile phone, gaming consoles and smart TVs.

On October 27, 2021, we announced the completion of our offering of 6.0% convertible unsecured subordinated debentures due October 30, 2026 at a price of \$1,000 per debenture ("**Convertible Debentures**") for total gross proceeds of \$57,500,000, which included the full exercise of the over-allotment option by the syndicate of underwriters led by Raymond James Ltd.

On October 26, 2021, IRD announced that it had been awarded a \$2 million contract by the Hawaii Department of Transportation to supply a mainline Weigh-in-Motion sorting and electronic pre-clearance system at Kapalama on the island of Oahu.

On October 20, 2021, we announced that we had entered into a \$50 million bought-deal financing of Convertible Debentures to be offered by way of a prospectus supplement in each of the provinces and territories of Canada other than the Province of Québec through a syndicate of underwriters led by Raymond James Ltd., and with an over-allotment option to purchase up to an additional \$7.5 million aggregate principal amount of Convertible Debentures on the same terms. Net proceeds from this financing were announced to be used to support growth through potential acquisitions and to provide additional working capital to support continued operations.

On October 4, 2021, we announced that we had filed and obtained a receipt for a preliminary short form base shelf prospectus from each of the securities commissions in each of the provinces and territories of Canada other than the Province of Québec, which prospectus, when final and effective, will enable Quarterhill to issue Common Shares, preferred shares, debt securities, warrants, subscription receipts, units or a combination thereof of up to \$200,000,000 during the 25 months in which it is effective.

On October 1, 2021, WiLAN announced that it had entered into a license agreement with Motorola Mobility LLC with respect to patents relating to wireless technology.

On September 21, 2021, IRD announced that it had been awarded a \$2.2 million contract to supply, install and maintain a mainline Weigh-in-Motion and Electronic Pre-Clearance system for the Idaho Transportation Department to be located on I-84 westbound at the Declo Port of Entry in Cassia County, southern Idaho.

On September 13, 2021, IRD announced that its Latin American subsidiary PAT Traffic Ltda had launched a new WIM@Toll controller for integrating Weigh-in-Motion into toll and access control systems.

On September 1, 2021, we announced the closing of our previously announced acquisition of 100% of the outstanding equity of ETC. We also announced that \$75 million of the purchase price would be funded by Quarterhill's cash-on-hand, with the remaining \$75 million purchase price to be funded by newly established syndicated debt facilities including a \$63 million term debt facility and a \$19 million revolving credit facility, of which credit facility only \$12 million was being drawn.

On August 24, 2021, IRD announced that it had been awarded a four-year contract with an option to renew for six additional years to maintain and maximize performance of the Illinois-statewide Weigh-in-Motion network used to enforce federal regulations and protect the Illinois Department of Transportation's infrastructure from damage caused by oversized trucks. This contract has a value of up to \$4.1 million.

On August 19, 2021, IRD announced that the Oklahoma Department of Transportation had authorized IRD to move forward with the installation of an electronic screening system for the Bryan County Northbound Port-of-Entry Weigh Station, including providing five years of maintenance services.

On August 16, 2021, we announced that we had entered into a definitive agreement to acquire 100% of the outstanding equity of Richardson, Texas-based ETC from Align Capital Partners for total cash consideration of \$150.0 million plus transaction-related expenses, all to be funded by a combination of \$75.0 million of cash-on-hand and \$75.0 million of debt financing.

On August 4, 2021, WiLAN announced that it had entered into a licence agreement with a company in the automotive industry with respect to patents relating to wireless technology.

On August 3, 2021, WiLAN announced that its wholly-owned subsidiaries Woden Technologies Inc. and Innovative Memory Systems Inc. had acquired patents from a leader in capturing, preserving, accessing and transforming data for data centres, mobile and personal devices, which patents relate to semiconductor process, packaging and circuit technologies.

On July 6, 2021, WiLAN announced that its wholly-owned subsidiaries, Cetus Technologies Inc. and North Star Innovations Inc. had granted a license to Powerchip Semiconductor Manufacturing Corporation related to the design and manufacturing of semiconductor devices including memory and logic chips.

On June 30, 2021, IRD announced that it had been awarded a contract for upgrades to the Nebraska City weigh station preclearance system from the Nebraska State Patrol with a value of up to \$1.8 million.

On June 28, 2021, IRD announced its launch of a new "commercial vehicle safety alliance" decal reader system utilizing artificial intelligence and machine vision technology enabling superior read rates of "commercial vehicle safety alliance" decals.

On June 23, 2021, WiLAN announced that its wholly-owned subsidiary, Security Video Camera Systems Inc. had entered into a license agreement with a leading security video and solutions company related to various security video technologies.

On April 28, 2021, we announced the acquisition of all issued and outstanding shares of VDS, a German intelligent transportation systems provider of high precision traffic monitoring devices that record driver speed and red light infractions for cash consideration of approximately \$2.8 million, with VDS to be integrated into IRD.

On April 7, 2021, IRD announced that it would be participating in a research project with the University of Manitoba and the Canadian National Research Council relating to improvements to highway transportation infrastructure, reliability and safety in the Canadian Prairie and Northern Region.

On March 29, 2021, IRD announced that it had been awarded a five-year maintenance and upgrade contract to install, manage and maintain permanent traffic data collection sites in Metro New York City and Long Island for the New York State Department of Transportation with a value of up to \$13.0 million.

On March 1, 2021, WiLAN announced that it and Polaris had entered into a license agreement with LG Electronics settling litigation related to memory interface technologies and digital display and television technologies.

On February 11, 2021, IRD announced its launch of a web-based analytics platform by Icoms relating to bicycle sensors, radar speed signs and non-intrusive vehicle counters / classifiers, all of which can also be adapted to collect data from third party sensors, all designed to support "smart city" solutions by enabling data analysis for multiple types of sensors.

On January 5, 2021, we announced the acquisition of all issued and outstanding shares of Sensor Line GmbH, a German intelligent transportation systems provider of highly regarded fiber optic traffic sensors for road and rail markets for cash consideration of €3.8 million (approximately \$6 million), with Sensor Line to be integrated into IRD.

Significant Developments in 2020

On December 23, 2020, WiLAN announced that its wholly-owned subsidiary Xueshan Technologies Inc. had acquired a portfolio of approximately 2,000 patents from MediaTek Inc. relating to a variety of technologies including power management integrated circuits, RF integrated circuits, embedded and NFC microcontrollers and image processors.

On December 8, 2020, IRD announced that it had been awarded a follow-on contract to provide high speed, virtual Weigh-in-Motion systems for four sites in Ukraine for the Ukrainian road agency Ukravtodor with a value of approximately US\$2.0 million.

On November 30, 2020, we announced that PricewaterhouseCoopers LLP had, at our request, resigned as Quarterhill's auditors effective November 30, 2020 and that the Board had appointed Ernst & Young Canada LLP as our auditors until the next annual general meeting of Quarterhill's shareholders.

On November 30, 2020, WiLAN announced that an unnamed handset manufacturer ranked in the top 20 in sales in the United States had signed a multi-year license to WiLAN's "Long-Term Evolution" wireless technologies patent portfolio.

On November 25, 2020, IRD announced the Oklahoma Department of Transportation had authorized IRD to move forward with the installation of a virtual Weigh-in-Motion system in 2021 with a five-year maintenance period.

On October 5, 2020, IRD announced that it had been awarded a contract for "Weigh-In-Motion (WIM) Systems Installations, Maintenance and Data Services" for the United States Federal Highway Administration's Office of Infrastructure Research and Development, part of the United States Department of Transportation, for a 66-month period and having a value of US\$1.2 million.

On October 1, 2020, WiLAN announced a new patent license agreement with Intel Corporation granting certain patent rights for a multi-year term.

On September 30, 2020, WiLAN announced that its wholly-owned subsidiary Elpis Technologies Inc. had acquired a portfolio of patents from International Business Machines Corporation relating to semiconductor manufacturing process technologies further to the portfolio announced on February 20, 2020.

On September 28, 2020, IRD announced that its partnership with SEA Electronics LLC in Ukraine had been awarded a US\$3.3 million commercial vehicle enforcement systems contract in Ukraine.

On September 24, 2020, WiLAN announced that its wholly-owned subsidiary Commercial Copy Innovations Inc. had entered into a license agreement with Konica Minolta, Inc. covering various printer-related technologies.

On September 10, 2020, IRD announced that it had been awarded a contract to provide end-to-end support and maintenance services for five Weigh-in-Motion systems for the New York State Commercial Vehicle Electronic Screening Program having a value of US\$2.0 million over a five-year period.

On September 3, 2020, IRD announced that its wholly-owned subsidiary PAT Traffic (Chile) Ltda had received a contract for the design, supply, installation and service, and integration of two Weigh-in-Motion systems in the Republic of Paraguay.

On August 31, 2020, we announced the appointment of Mr. John Rim as Quarterhill's Chief Financial Officer effective October 1, 2020.

On August 6, 2020, we announced that the TSX had accepted Quarterhill's Notice of Intention to Make a Normal Course Issuer Bid pursuant to which we may purchase up to 11,303,777 Common Shares, representing approximately 10% of Quarterhill's issued and outstanding Common Shares as at July 31, 2020, through the facilities of the TSX and/or alternative Canadian trading platforms from August 10, 2020 to August 9, 2021.

On August 6, 2020, WiLAN announced that its wholly-owned subsidiaries Polaris, North Star Innovations, Inc. and SecureWave Storage Solutions, Inc. had entered into a license and settlement agreement settling all pending patent litigation matters with Kingston Technology Corporation, licensing all these subsidiaries' patents generally relating to semiconductor memory and memory interface technologies.

On July 17, 2020, we announced the final results of Quarterhill's "modified Dutch auction" substantial issuer bid for our Common Shares that was originally announced on June 1, 2020 and expired on July 7, 2020. Pursuant to this substantial issuer bid, Quarterhill repurchased 2,687,981 Common Shares (representing approximately 2.26% of the Common Shares issued and outstanding prior to the bid) for cancellation at \$2.15 per share and an aggregate purchase price of approximately \$5.78 million excluding fees and expenses.

On June 17, 2020, WiLAN announced that, in its ongoing patent infringement litigation with Apple before the District Court, the District Court had ruled on all post-trial motions and entered final judgment in favour of WiLAN maintaining the full jury verdict previously announced on January 24, 2020 and awarding an additional US\$23.75 million in pre-judgment interest to the jury award.

On June 1, 2020, IRD announced that its then President & Chief Executive Officer, Mr. Randy Hanson, had retired and would be succeeded by Mr. Rish Malhotra, the company's then current Chief Operating Officer and Executive Vice-President.

On May 19, 2020, we announced the completion of an agreement to sell Quarterhill's VIZIYA Corp. subsidiary to Prometheus Group for cash proceeds of \$49.4 million.

On May 5, 2020, we announced the appointment of Mr. Paul Hill as Quarterhill's President & Chief Executive Officer effective June 1, 2020. We also announced that Mr. Hill would operate out of a Toronto-based Quarterhill office to be established in the near future and would become a member of the Board.

On March 31, 2020, WiLAN announced that Polaris had entered into a license agreement with United Microelectronics Corporation regarding certain patents relating to semiconductor manufacturing process technologies.

On March 30, 2020, Quarterhill provided a corporate update in light of the COVID-19 pandemic. We announced that, given the impact of COVID-19, the underlying uncertainty concerning corporate valuations, the importance of preserving our cash and the current vacancies in some of Quarterhill's key corporate executive positions, we had decided to pause our M&A strategy and would be focusing on our existing businesses. With this decision, considering Quarterhill's significant cash balance and the cash-flow generating potential of our operating subsidiaries, we also announced that the Board would be undertaking a review of alternatives to return some capital to our shareholders which could include one or more of a normal course issuer bid, a substantial issuer bid, a dividend increase or a special dividend. Quarterhill also announced that we and our operating subsidiaries had implemented measures to protect employees, customers, partners, suppliers and communities from the spread of the COVID-19 virus including implementing working from home, eliminating travel and closely following guidelines issued by the World Health Organization and other health and regulatory authorities in the jurisdictions in which they operate.

On February 20, 2020, WiLAN announced that its wholly-owned subsidiary Elpis Technologies Inc. had acquired a portfolio of patents from International Business Machines Corporation relating to semiconductor manufacturing process technologies.

On January 24, 2020, WiLAN announced that, in a "damages only" re-trial in its ongoing patent infringement

litigation with Apple before the District Court, the jury rendered a verdict awarding WiLAN US\$85.23 million in damages for infringement of 2 U.S. patents by Apple.

4. Description of the Business

In 2017, Quarterhill began a transition to diversify its business from Old WiLAN's patent monetization business (continued by WiLAN) towards acquiring established technology companies in the ITS Industry operating alongside our WiLAN's patent monetization business. To this end, in 2017, we transferred and assigned Old WiLAN's patent monetization assets to WiLAN and acquired IRD.

In 2021 we acquired Sensor Line, VDS and ETC and announced that we were accelerating our transition to a growth-oriented business focusing on the ITS Industry. We continue to seek opportunities to grow our presence in the ITS Industry by acquiring companies in the areas of road transportation (including infrastructure, vehicles and users) and traffic and mobility management as well as interfaces with or for other modes of transportation.

General information about each of ETC, IRD and WiLAN and their respective businesses is set out under the headings "Intelligent Transportation Systems" and "Intellectual Property Licensing" earlier in this Annual Information Form.

Strategy

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

We believe that, as we increase the share of our revenue derived from recurring sources, we will continue to increase our revenue and cash flows in a consistent manner which we hope will allow us to better scale our operations and grow both organically and through additional acquisitions. In appropriate circumstances, we may also divest certain assets if favourable conditions for such a divestiture are presented.

Our current existing businesses are described in more detail below.

Products and Services

ETC provides smart mobility solutions, including intelligent transportation systems, electronic tolling and congestion management (back-office solutions, and roadside solutions) and related operations and maintenance services to customers such as U.S. governmental toll authorities and to principal contractors to U.S. governmental authorities. Through ETC's rite® solutions' product suite called riteSuite™, ETC offers its customers mobility solutions, such as all-electronic tolling (AET), dynamic pricing, agency interoperability, hosted mobility solutions and machine learning. ETC's back-office solutions provide account management, customer service, violation processing and technical services operations. ETC's roadside solutions provide both onsite and remote maintenance and field operations services, including tolling facility support, lane equipment control and cash management.

IRD's products and services to governments, principal contractors to governments and to other parties worldwide include automated truck weigh stations, toll road systems and equipment, red light and speed enforcement systems, traffic management and safety systems, the VectorSense® tire sensor suite and related Vehicle Information-In-Motion™ traffic intelligence system, integrated traffic control systems, permanent Weigh-In-Motion systems, portable slow speed Weigh-In-Motion systems, portable wheel load scales, traffic data collection, vehicle and axle detection equipment, and automated vehicle identification services and equipment among other hardware and software products and offerings.

WiLAN's service offerings have historically been focused on monetizing patents, both its own and those provided by third party patent partners for WiLAN to monetize, by granting non-exclusive licenses to use the technologies covered by those patents to third parties worldwide who would otherwise be infringing on those patents. WiLAN has also entered into a multi-year annual subscription strategic partnership agreement enabling its strategic partner to obtain certain rights to patents acquired during the term of the agreement and potentially to acquire certain of these patents from WiLAN in consideration for additional payments to WiLAN.

Production and Distribution

ETC employs a staff of dedicated direct business development and marketing professionals who proactively engage current and potential customers for new business as well as follow on business. ETC responds to competitive requests for proposals as well as single-source non-competitive opportunities. ETC provides solutions, software and services. ETC does not manufacture any hardware.

IRD relies on direct salespeople as well as distributors and agents for sales and marketing to its customers and to sell both directly to end users and through other contractors and systems integrators. IRD's production facility in Saskatoon, Saskatchewan is certified to the ISO 9001:2015 standard and maintains a rigorous quality program in the design, manufacture and testing of all its products. These products are delivered and installed through the collaboration of project managers and field workers around the world.

WiLAN's offerings are generally by way of contracts, negotiated by highly specialized patent licensing professionals located in the U.S. and Canada, with third parties that rely on the technologies covered by the patents they license.

Revenues

Our revenues are generally generated from our operating subsidiaries' sales of their services and products. We measure our revenue performance based on whether our operating subsidiary's customer is buying a license to our technology or is buying hardware products and systems.

For the year ended December 31, 2022, we operated in two business segments (not including discontinued operations) providing intellectual property licensing and intelligent transportation systems as we review our operating results, assess our performance, make decisions about resources and generate discrete financial information for each of these segments. The following table provides revenue information by revenue type for fiscal 2022 and 2021:

Revenues	Year Ended December 31,			
	2022		2021	
	Amount (thousands)	Percentage of Total Revenues	Amount (thousands)	Percentage of Total Revenues
Licensing	\$144,356	48%	\$25,722	20%
ITS	\$159,334	52%	\$99,973	80%
Totals	\$305,690	100%	\$125,695	100%

All of our license revenues derive from WiLAN and all of our intelligent transportation systems revenues derive from ETC and IRD.

Research and Development

ETC has an active program of research and development working to advance the functionality of its existing riteSuite™ solutions and software offerings and relies upon a combination of internal and contracted resources to enhance the quality and features of its existing solutions and software and to develop new solutions and software, all with the goal of achieving a growing market share in the smart mobility solution market.

IRD has an active program of research and development working to advance the functionality of its existing products and systems and relies upon a combination of internal and contracted resources to enhance the quality and features of its existing products and systems and to develop new systems, all with the goal of achieving a growing market share in the global ITS Industry. IRD's research and development investments cover a range of product advancements including improving the availability of new products such as the VectorSense® Tire Sensor Suite and the related Vehicle Information-In-Motion™ Traffic Intelligence System which were introduced in 2017.

WiLAN has a long history of internally developing and patenting inventions that have proven of great value to third parties. One of WiLAN's key strategies is to continue to strengthen its global patent portfolio to sustain long-term revenue opportunities and associated growth. WiLAN plans to continue generating internally developed patents by developing and filing applications for such patents with its own employees augmented with technology

development partnerships with universities and other partners. Concurrently, WiLAN plans to continue to partner with third parties to acquire portfolios of patents in chosen market segments based on in-depth technical, legal and business analyses.

Specialized Skill and Knowledge

We and our operating subsidiaries have workforces with highly specialized skills and knowledge in such diverse areas as engineering, manufacturing, logistics, software programming, research and development, project management, sales and marketing, licensing, corporate development, law, administration and finance and other areas.

Competition

Quarterhill and each of our operating subsidiaries all face varying levels of competition in their specific businesses and unique markets.

ETC faces competition from systems integrators, enterprise resource planning companies, consulting firms and information technology companies. ETC has been operating in the smart mobility space for over 23 years and has a well-established reputation and history as a leader in smart mobility, including a number of industry firsts, such as first in the U.S. with a web-based toll solution, first in the U.S. with all-electronic tolling, first in the U.S. with dynamic pricing, and first in the U.S. with an interoperable hub compliant with U.S. national interoperability (NIOP) standards.

IRD faces competition in the U.S. and Canada from systems integrators and sensor companies operating in the ITS Industry. In overseas markets, various multi-national companies and other local technology companies compete with IRD's offerings. IRD is, however, one of the largest companies and a leader in the Weigh-In-Motion market, with a well-established international reputation and history, and has developed a dominant position in the ITS Industry, particularly in Europe and North and Latin America.

WiLAN's patent licensing activity is relatively unique because patents, by their nature, grant their owners the right to license or to exclude others from practicing inventions disclosed in the patents and, therefore, are not subject to traditional competition issues as such. WiLAN can and often does, however, face competition for licensing payments because potential licensees may only allocate certain amounts for taking patent licenses and may not agree with WiLAN on the value offered by WiLAN's various patents and, consequently, may refuse to or delay taking a license while providing licenses to other companies' patents. In addition, WiLAN often faces competition from other companies in acquiring additional patents for its monetization activities. In response to such pressures from other companies, WiLAN is focused on building and maintaining its reputation as a merits-focused and reasonable licensor of patents and as a trusted licensing partner.

Intellectual Property

We and our operating subsidiaries rely on a combination of contractual provisions and patent, copyright, trademark and related intellectual property laws to protect our proprietary rights in the markets in which we conduct business around the world. Our intellectual property and associated right are considered to be important assets and we enforce all related rights vigorously where appropriate. Typically, we license the use of our intellectual property products (including our patents) to our customers and do not transfer title to such products, although we have and will continue to sell, transfer and assign patents to customers in the appropriate circumstances.

For software licensed to its customers by ETC, the source code versions of such software solutions are protected as trade secrets, and unpublished copyright works to the extent possible in the markets in which these products are licensed. Certain of ETC's solutions are subject to patent protection in certain countries around the world.

For software licensed to its customers by IRD, the source code versions of such products are protected as trade secrets and unpublished copyright works to the extent possible in the markets in which these products are licensed. Certain of IRD's products are subject to patent protection in certain countries around the world.

Quarterhill and our operating subsidiaries require all of our employees and consultants to enter into non-disclosure, confidentiality and intellectual property assignment agreements as a condition of employment or consulting, as applicable.

Cycles

ETC's business operations are not generally subject to cyclical or seasonal pressures, although such pressures affecting the technology industry as a whole can affect ETC's revenues and ability to install equipment at customer sites.

Because many of IRD's product offerings depend on outdoor installation, seasonal weather conditions in North America may impact installation work for certain projects resulting in the first quarter of any given fiscal year (including most of winter in North America) often having lower revenues, with the third quarter of any given fiscal year (including and immediately following summer in North America) generally being the time when many projects are the most active.

WiLAN's business operations are not generally subject to cyclical or seasonal pressures, although such pressures affecting the technology industry as a whole can often affect WiLAN's revenues and ability to sign licenses.

Foreign Operations

Although Quarterhill's operations are primarily focused on North America, WiLAN also conducts its business operations in Asia and Europe and IRD also conducts its operations in Asia, Central America, Europe and South America. ETC currently has no operations outside of the United States.

For fiscal 2022, approximately 87% of our revenues arose in the United States, 2% in Germany, 2% in Taiwan and 9% in various other jurisdictions, none of which represented more than 1% of our revenues for the year. For more details, please see Note 20 entitled "Segment Reporting" included in our consolidated financial statements for the year ended December 31, 2022 as filed and available on SEDAR at www.sedar.com.

Employees

At December 31, 2022, we had 604 employees worldwide with 18 employees in Quarterhill, 260 employees in ETC, 299 employees in IRD and its subsidiaries and 27 employees in WiLAN and its subsidiaries. By January 31, 2023, our and our operating subsidiaries' total headcounts had been reduced by 48 employees.

Environmental Protection

Quarterhill, our operating subsidiaries and our employees recognize the impact of our actions on our natural environment, and we strive to be responsible corporate citizens in the conduct of our businesses.

IRD and its subsidiaries have production facilities, the operation of which result in the use of power to operate equipment, emissions from certain industry-standard industrial processes and more general emissions from the receipt and shipment of materials and finished products and the installation and maintenance of those products. IRD and its subsidiaries rely on common and commercially standard practices to help reduce the environmental impacts of their operations.

In addition, the entire Quarterhill organization and its employees generally work reasonably towards reducing emissions including by recycling, reducing or eliminating the use of hazardous materials, relying on video-conferencing where appropriate to reduce travel and reducing commuting to and from a central office location where possible and appropriate.

Other than normal course expenditures, none of which are material, there are no financial or operational effects to Quarterhill and its subsidiaries currently expected as to measures taken by them relating to environmental matters including with respect to capital expenditures, profit and loss, and our competitive position in both the year ended December 31, 2022 and as currently foreseeable in future years.

Risk Factors

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 "Risk Factors" 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 see the "Forward Looking and Other Statements" section of this Annual Information Form.

Risks Related to Quarterhill's Business Generally

COVID-19 and its Impact

As is well known, the worldwide outbreak of the coronavirus, or COVID-19, together with all of its newly developing variants, which was declared a pandemic by the World Health Organization on March 11, 2020, spread across the globe and negatively impacted the global economy, disrupted manufacturing operations and global supply chains and created significant volatility and disruption of financial markets. In doing so, the COVID-19 pandemic significantly increased economic and demand uncertainty, increased inflationary pressures and effects and could result in a global or one or more regional recessions. Any public health pandemic, including COVID-19, poses the risk that we and our employees, contractors, suppliers, customers and licensees and other partners may be prevented from conducting business activities in the normal course. This is especially the case where government authorities mandate shutdowns or quarantines. Certain jurisdictions, both national and local, may also be more heavily impacted where travel restrictions continue for longer periods and full quarantines are in effect.

The ultimate impact of the COVID-19 pandemic on Quarterhill and our operating subsidiaries' respective businesses and financial results will depend on future developments that are highly uncertain and cannot be predicted at this time, including developments based on new information that may emerge concerning the severity of the virus and the actions required or actually taken to contain its impact. To be clear, the COVID-19 pandemic and its continuing impacts have had and may continue to have delays or other negative impacts on our results of operations, the results of which are uncertain at this time.

We, our operating subsidiaries and, where possible (other than our manufacturing and production facilities and related personnel and field services personnel), our employees have transitioned to working in a hybrid environment between working remotely and working in regional offices where permitted by local health regulations. With certain exceptions, our businesses have not been materially negatively impacted by the COVID-19 pandemic although our operating subsidiaries are experiencing inflationary pressures and delays in implementing operating plans due in part to certain court closures as well as inability to travel to meet with customers. These trends may fluctuate depending on future impacts and the responses of governments and third parties to these trends. We and our operating subsidiaries currently have sufficient liquidity to meet all currently expected operating requirements for the foreseeable future, although the worsening of any extended inflationary pressures and/or any related global or regional recession could have a further adverse impact on our financial condition and operations.

We may not be able to execute our corporate strategy.

Our strategic priorities are generally described under the heading "Description of the Business – Strategy" above in this Annual Information Form and have changed with the transition to our business as an acquirer, manager and integrator of established technology companies in the ITS Industry. As with any undertaking such as Quarterhill and our diversification into the ITS Industry, there is inherent risk associated with the successful implementation and execution of our strategic plans. If we are unable to successfully implement and execute these plans, 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 may need to generate additional revenue to maintain profitability. If our revenues decline significantly, 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 has the potential to 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, including past acquisitions, should be expected to 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. Management believes that valuations expected and/or proposed by acquisition candidates may often be subject to cyclical and, often, unreasonable, expectation that may, from time to time, make it difficult for us to source and consummate sufficient acquisitions to fulfil our strategic goals. Even if we can identify appropriate acquisition candidates, we may be unable to consummate an acquisition on suitable terms. From time to time, we may also have significant competition for acquisition candidates from other parties including those that have greater resources or that 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 plan to acquire other companies using both our existing free cash flow and available financing to fund the acquisitions. If our existing businesses are unable to generate sufficient free cash flows to successfully fund our acquisition strategy at any time or from time to time, we may be unable to complete one or more such acquisitions. 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 acquisition, existing shareholders may suffer dilution.

As a part of our acquisition strategy, we may 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. Any potential earn-out payments are contingent payments and while we believe we would have the required funds to satisfy these contingent payments, if earned, there can be no assurance that we would have the required funds at the applicable point in time. If we do not make any contingent payments, whether due and payable or not, this may have a material adverse impact on us and we may be exposed to litigation, the resolution of which may be unpredictable.

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 an 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 any transaction and subsequent integration may be significant.

We cannot assure that any acquisitions or business arrangements completed will ultimately benefit our business. Further, 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, our estimates could differ materially from the liabilities actually incurred.

A default under the ITS Credit Facility and ITS Credit Agreement entered into by Quarterhill ITS could have a material adverse effect on our business and prospects.

On September 1, 2021, Quarterhill ITS (as borrower) entered into a credit agreement with HSBC Bank Canada, the other financial institutions from time to time party thereto as additional lenders and the administrative agent thereunder (the "**ITS Credit Agreement**"), as the ITS Credit Agreement was amended on September 16, 2021 to admit another Canadian chartered bank to the ITS Credit Agreement as an additional lender (together with HSBC Bank Canada, the "**Lenders**") and further amended on December 21, 2021, April 29, 2022 and March 21, 2023. The credit facilities extended by the Lenders to Quarterhill ITS under the ITS Credit Agreement (collectively, the "**ITS**

Credit Facilities") were used to pay a portion of the purchase price for ETC and for other general corporate purposes. The total original commitments of the Lenders under the ITS Credit Facilities were US\$60 million (which included a US\$15 million revolving facility). The commitments of the Lenders under the ITS Credit Facilities may be increased by US\$25 million by way of an accordion feature, subject to satisfaction of certain conditions set forth in the ITS Credit Agreement. The ITS Credit Facilities are secured by a general security agreement over all Quarterhill ITS's assets and guaranteed by each of IRD and ETC as secured by general security agreements over all of each of their respective assets. At December 31, 2022, US\$22 million was outstanding under the ITS Credit Facilities. If Quarterhill ITS were to default under the ITS Credit Facilities and/or either or both of ETC and IRD were to default under their guarantees, including a failure to comply with any financial or other restrictive covenants, which defaults were not waived by the Lenders, then any such default could have a materially adverse effect on our business and prospects; as at the date of this Annual Information Form, Quarterhill ITS is in legal compliance with the terms of the ITS Credit Facilities and no breach of the ITS Credit Facilities has been waived by the Lenders.

Our acquisitions may have procedures and internal controls over financial reporting and other material policies that differ from ours.

As part of our business strategy of acquiring appropriate businesses, we implement policies and processes as well as our internal controls over financial reporting at any acquired companies following acquisition. Any such implementations may be a lengthy process and may divert our management's attention away from other business operations. Such implementation efforts may occasionally reveal deficiencies in acquired companies' internal controls over financial reporting as well as other material policies that could not be identified in our acquisition-related due diligence. Any such deficiencies may, in the worst cases, cause us to not be in a position to comply with our periodic reporting requirements and/or require us to invest heavily to meet our obligations and, as a result in either case, our business and financial results and condition may be materially harmed.

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 may be 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 (including any impacts to Quarterhill and/or its operating subsidiaries from the current trend seeing unprecedented numbers of workers leaving their jobs in the economy generally), 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 is 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 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 2018 Equity Incentive 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 practice is restricted stock units which may be granted to certain key employees based on our achievement of certain corporate goals linked to our financial performance. Because restricted stock units result in the issuance of Common Shares, if the market price of the Common Shares declines, restricted stock units hold 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 has 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 at the appropriate times, although fluctuations in our and our operating subsidiaries' respective work forces may have a short-term negative impact on our businesses, financial performance, financial condition, cash flows and growth prospects.

Operating a North American organization and managing a geographically dispersed workforce requires substantial management effort and may require significant additional investment in our infrastructure. We must 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 use of social media and other web-based tools used to generate, publish and discuss user-generated content and to connect with other users has 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 business franchises and result in lower earnings.

Each of our operating businesses faces significant 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 and, more specifically, the industries in which they operate which industry-specific cycles may not always track to the economy in general. If the economy or a specific industry in which we conduct business deteriorates for a prolonged period, one or more of our significant operations could be materially harmed. In addition, we utilize debt as a component of our or our operating subsidiaries' respective capital structures and may wish to utilize

more such debt in future. 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, from time to time, 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 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, including a business risk assessment and disaster recovery planning, 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 (including the current invasion of the sovereign nation of Ukraine by the armies of the Russian Federation) 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. Further, instability in the financial markets resulting from terrorism, sustained or significant cyber attacks, or war (including the current invasion of the sovereign nation of Ukraine by the armies of the Russian Federation) could also materially adversely affect our ability to raise capital.

Risks Relating to Our Operating Subsidiaries Specifically

Our operations may be negatively impacted by climate, political, social and economic risks, natural disasters and pandemics in countries impacted thereby.

Some of the countries in which we and our operating subsidiaries operate have experienced individual and, in some cases, prolonged, climate, political, social and economic unrest in the past and may do so again in the future. We and our operating subsidiaries may be exposed to the risk of hurricanes, floods, earthquakes, pandemics and other natural disasters and their indirect effects from time to time in one or more of the countries in which we operate. Any such events may have a negative impact on one or more of our businesses.

Conditions or events including the ones specifically identified below could disrupt our businesses' supply chains, interrupt operations at our facilities or at those of our customers and suppliers, increase our operating expenses, result in losses of sales, delay implementation of assets and performance of contracts or require additional expenditures to be incurred:

- extraordinary weather conditions or natural disasters such as hurricanes, tornadoes, floods, fires, extreme heat, earthquakes, etc.;
- pandemics such as the worldwide COVID-19 pandemic;
- political instability, social and labour unrest, war or terrorism including the ongoing invasion of the sovereign nation of Ukraine by the armies of the Russian Federation;
- interruptions in the availability of basic commercial and social services and infrastructure including power and water shortages, and shipping and freight forwarding services including via air, sea, rail and road; and
- related economic impacts including changes in interest rates, inflation, exchange rates and changes in focus for government spending.

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.

A non-exhaustive list of examples of risks and uncertainties relating to our current operating subsidiaries includes the following:

- with respect to ETC:
 - ETC's business is currently concentrated with a relatively small number of customers and related agreements, the loss of some of which customers without replacement could adversely affect its operating results and cash flows;
 - ETC derives significant revenues from commercial and government contracts awarded through competitive bidding processes including renewals, which can impose significant costs and ETC may not achieve its financial objectives if it fails to accurately and effectively bid on such projects;
 - ETC's government contracts are subject to the appropriation of funds, termination rights, audit and investigation rights and other customary terms which could be exercised in a manner that could negatively impact ETC's reputation and reduce its ability to compete for new contracts;
 - ETC's customers often rely on the issuance of bonds to construct their projects and if any issuance of such bonds by any such customer does not permit the construction of such a project or any such customer is unable to issue such bonds, then any such customer may delay or terminate agreement(s) with ETC, which could adversely affect its operating results and cash flows;
 - from time to time, ETC is required by certain of its customers to obtain performance, litigation, payment, operation, maintenance and/or other types of bonds for specific projects; if ETC is unable to obtain any such required bonds or is unable to obtain any such bonds on a favourable basis, it may not be able to win and/or perform related agreements for such customers, which could adversely affect its operating results and cash flows; and

- from time to time, ETC is required by certain of its customers to agree to rigorous key performance indicators and related liquidated damages for the failure to meet such indicators; such liquidated damages can be substantial and, if ETC were required to pay any such liquidated damages, this could materially adversely affect its operating results and cash flows;
- 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;
 - a necessary dependence on government contracts and subcontracts exposes IRD's business to special risks and challenges including, among other things, political risks, delays and constraints arising from lack of attention from governmental agencies struggling with other priorities, long and/or competitive bidding and approval processes, performance bond requirements, deliverable requirements and related damage and/or cancellation provisions for failure meet deliverables, etc.;
 - IRD's business with its valued customers in Ukraine has been disrupted and may continue to be disrupted in future as a result of the current invasion of Ukraine by the armies of the Russian Federation;
 - 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
 - as governments adjust their spending priorities for political and/or economic reasons, transportation agencies around the world often reduce their spending and/or implement shifts in transportation funding initiatives 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 WiLAN:
 - licensing patents can take an extremely long time and WiLAN is reliant on licensing fees or 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 validity, infringement and/or 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/or delays in generating revenues;
 - WiLAN's industry is subject to ever-changing jurisprudence, 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, particularly in the U.S., which could cause delays and/or difficulties in entering into license agreements and generating related revenues;
 - WiLAN needs to continue acquiring new patents to grow its business but may not be able to compete successfully against others to acquire certain specific patents and, if successful, any such acquisition can be time consuming, complex and costly, all of which could adversely affect WiLAN's operating results; and
 - while uncommon, from time to time, WiLAN may be subject to commercial contractual disputes with existing licensees, licensing partners or law firms, which may be time consuming, complex and costly, including jeopardizing revenue streams, all of which could adversely affect WiLAN's operating results.

As noted, the foregoing examples of risks and uncertainties to which these operating subsidiaries may be subject is not intended to be exhaustive but may provide readers of this Annual Information Form with information that could influence their decision to purchase or sell Common Shares.

We have initiated a process to explore and evaluate potential strategic alternatives for WiLAN, the potential scope, impact and results of which are currently unknown.

On December 15, 2021, we announced, among other things, that we planned to retain investment bankers to conduct a strategic review of WiLAN which may include changes to its corporate structure, the acquisition or disposition of assets, a going private transaction, joint ventures, the sale of WiLAN and/or alternative operating models among other potential alternatives. There can be no assurance that this strategic review process will result in identification of any alternative that enhances shareholder value, or if such an alternative is identified, that any agreement for a related transaction will be entered into or consummated.

Shareholders may expect that a transaction will result from the strategic alternatives review and, consequently, not completing a transaction may result in a material decline in the price of the Common Shares. Such a transaction, if any, may be unsuccessful or less successful than anticipated and may adversely affect Quarterhill's financial position and results of operations.

The process of exploring and evaluating strategic alternatives may be disruptive to Quarterhill's and WiLAN's respective business operations, and create uncertainties with current and potential licensees, defendants, employees and business relationships. If we are unable to effectively manage these risks, Quarterhill's and WiLAN's respective businesses, financial conditions and/or results of operations may be adversely affected. Further, in connection with the process of exploring and evaluating strategic alternatives, we expect to incur expenses, including expenses in connection with the retention of advisors and consultants; such costs may be significant, whether or not any transaction is consummated.

Our operating subsidiaries conduct their businesses in certain foreign jurisdictions.

Our operating subsidiaries continue to pursue international growth opportunities, including in various jurisdictions in Africa, Central America, Europe, North America, Oceania, and South America. Depending on the operating subsidiary in question, we have limited experience conducting business outside Asia, Europe and/or North America and we may not be aware of all the factors that may affect our operating subsidiaries and their respective businesses in foreign jurisdictions. We are subject to a number of risks associated with international business activities that may increase liability and costs, lengthen sale cycles and require significant management attention.

In particular, international operations carry certain risks and uncertainties and associated costs, such as:

- the complexities and expense of administering a business abroad;
- complications in compliance with and unexpected changes in foreign regulatory requirements;
- foreign laws, international import and export legislation;
- political instability, social and labour unrest, war or terrorism including the current invasion of the sovereign nation of Ukraine by the armies of the Russian Federation
- trading and investment policies;
- corruption, requests for improper payments or other actions that may violate applicable foreign corrupt practices laws, uncertain legal enforcement and physical security;
- foreign currency fluctuations;
- exchange controls;
- tariffs and other trade barriers;
- difficulties in collecting accounts receivable;
- potential adverse tax consequences;
- uncertainties of laws and enforcement relating to the protection of intellectual property or secured technology;
- unauthorized copying of software;
- difficulty in managing a geographically dispersed workforce in compliance with diverse local laws and customs; and
- other factors, depending upon the jurisdiction involved.

We and our operating subsidiaries may experience these and other factors in the future and such factors may have a material adverse effect on our businesses, operating results and financial condition.

We are subject to various trade policy considerations in the jurisdictions in which we and our operating subsidiaries conduct business

Our operating subsidiaries and their respective businesses are subject to government policies related to import and export restrictions and business acquisitions, support for export sales, and world trade policies including specific regional trade practices. As a result, we are exposed to risks associated with changing priorities by government and supranational agencies.

In addition, protectionist trade policies and changes in the political and regulatory environment in the markets in which we operate, such as foreign exchange import and export controls, tariffs and other trade barriers, price or exchange controls, as well as potential delays to the full implementation of the "Agreement between the United States of America, the United Mexican States and Canada" among Canada, the U.S. and Mexico, could affect our business in several national markets, impact our sales and profitability and make the repatriation of profits difficult, and could expose us to penalties, sanctions and reputational damage.

Fixed price contracts may result in unexpected costs.

A number of our operating subsidiaries' government contracts may be based on a fixed price for the provision of a specified solution against an agreed delivery schedule. Entering into these types of contracts, including in the submission of tenders or responses to requests for quotes or proposals, requires our operating subsidiaries to estimate the total project cost based on preliminary projections of a project's requirements, and the financial viability of any such project depends in large part on our operating subsidiaries' ability to estimate these costs accurately and to complete the related project on a timely basis. There is a risk in all fixed price contracts that our applicable operating subsidiary may face unexpected costs, delays and other challenges that will prevent them from delivering the related systems and/or services at the expected cost and/or within the time specified. If costs on any such projects exceed the fixed contractual payment amount, then our subsidiary may be required to bear any excess costs. Bearing any such excess costs could adversely affect our financial conditions and results of operations.

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 results in Canadian dollars. Our operating results are subject to changes in the exchange rate of the U.S. dollar relative to the Canadian dollar and any other currency in which our operating subsidiaries generate revenues and pay expenses. Any decrease in the value of the U.S. dollar relative to the Canadian dollar and/or such other currencies 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 may be difficult to forecast, may 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 intellectual property licensing business is characterized by a relatively small number of transactions in any year and even minor variances in the rate and timing of concluding license agreements could cause significant

fluctuations in revenues. Our other businesses do not typically experience this type of revenue fluctuations although they do experience variations from period to period that could cause us to plan or budget inaccurately, and those variations could adversely affect our financial results.

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, including goodwill. At December 31, 2022, intangible assets, including goodwill, totaled approximately \$253 million compared to approximately \$258 million of shareholders' equity, and represented approximately 61% of our total assets of approximately \$412 million. 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 and indefinite economic life intangible assets. 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.

We also have significant patent-related intangible assets recorded on our consolidated balance sheets through primarily WiLAN but also in ETC and IRD. We evaluate the recoverability of the carrying amount of our patent-related intangible assets on an ongoing basis, which evaluations may result in our incurring substantial impairment charges which would adversely affect our consolidated financial results. There can be no assurance that the outcome of such reviews in the future will not result in substantial impairment charges. Impairment assessment inherently involves judgment as to assumptions about expected future cash flows and the impact of market conditions on those assumptions. Future events and changing market conditions may impact our assumptions as to prices, costs, holding periods or other factors that may result in changes in our estimates of future cash flows. Although we believe the assumptions we have used in testing for impairment are reasonable, significant changes in any one of our assumptions could produce a significantly different result.

Risks Relating to Our Common Shares and Convertible Debentures

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 \$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. 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 \$0.0125 per Common Share on March 21, 2023 and payable on April 11, 2023 to holders of record of Common Shares at the close of business on March 31, 2023.

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 in light of 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 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 and the trading price of the Convertible Debentures may also be volatile.

The Common Shares are listed on the TSX and on the OTCQX Best Market and the Convertible Debentures are listed on the TSX.

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 a number of 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 Annual Information Form.

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

In addition to factors affecting the market price of the Common Shares, the market price of the Debentures may also be based on a number of factors, including but not limited to:

- (a) the prevailing interest rates being paid by companies similar to us;
- (b) the overall condition of the financial and credit markets;
- (c) interest rate volatility;
- (d) the markets for similar securities;
- (e) our financial condition, results of operation and prospects;
- (f) the market price, dividend policy and volatility of the Common Shares;
- (g) changes in the industry in which we operate and competition affecting us;
- (h) the results of any public announcements made by the Company;
- (i) sale of additional debentures, of Common Shares and/or of other Quarterhill securities in the marketplace; and
- (j) other events and factors, including but not limited to the risk factors identified in this Annual Information Form.

Potential volatility in the market price of the Convertible Debentures and Common Shares may affect the ability of holders of Convertible Debentures and/or Common Shares to sell their securities at an advantageous price. Additionally, this may result in greater volatility in the market price of the Convertible Debentures than would be expected for non-convertible debt securities. Financial markets have, at times, experienced significant price and volume fluctuations that have particularly affected the market prices of securities of companies and that have, in many cases, been unrelated to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that fluctuations in price and volume will not occur. If such increased levels of volatility and market turmoil occur, our operations could be adversely impacted and the trading price of the Convertible Debentures and/or Common Shares may be adversely affected.

The current invasion of the sovereign nation of Ukraine by the armies of the Russian Federation and any restrictive actions that are or may be taken by Canada, the United States and/or other countries in response thereto, such as sanctions or export controls, have resulted in additional volatility in Canadian and international financial markets and may lead to even more such volatility. As a result, the market price of the Common Shares and/or Convertible Debentures has declined and may decline further even if Quarterhill's and/or our operating subsidiaries' respective operating results, underlying business values or prospects have not changed.

Because of any of these factors, the market price of the Common Shares and/or Convertible Debentures 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.

The acquisition of, investment in and disposition of Common Shares or Convertible Debentures has tax consequences.

Investors should be aware that the acquisition, holding and/or disposition of Common Shares or Convertible Debentures has tax consequences that are not described in this Annual Information Form. Holders of Common Shares and/or Convertible Debentures should consult their own tax advisors with respect to the tax consequences of the acquisition, ownership and disposition of Common Shares or Convertible Debentures as may be applicable to their particular circumstances.

Substantial future sales of Common Shares and/or other securities by Quarterhill and/or our 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 performing well.

If we and/or our existing shareholders, including any of our directors or executive officers, sell substantial amounts of Common Shares and/or other securities in the public market in the future, or are perceived by the public market as intending to sell substantial amounts of Common Shares and/or other securities, the trading price of the Common Shares could decline. At December 31, 2022, 114,639,700 Common Shares and Convertible Debentures with an aggregate principal amount of \$57,500,000 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 more than 2,800,000 Common Shares and Convertible Debentures having an aggregate principal amount of \$50,000 were held or controlled, directly or indirectly, by our directors and executive officers.

In addition, fully vested options to purchase more than 1,200,000 Common Shares, more than 236,000 restricted share units that may vest into an equal number of Common Shares and more than 68,000 performance share units that may vest into an equal number of Common Shares were held by our directors and executive officers at December 31, 2022, and additional options, restricted share units and performance share units convertible, pursuant to their respective terms and the terms of Quarterhill's 2018 Equity Incentive Plan, into Common Shares continue to vest in accordance with the terms of those options, restricted share units and performance share units. Any Common Shares issued upon the exercise or vesting of such options, restricted share units and/or performance share units would be freely tradable upon issue, without restriction, in the public market, subject to blackout periods and applicable laws relating to insider trading.

The Convertible Debentures were issued under an indenture dated October 27, 2021 between Quarterhill and Computershare Trust Company of Canada (the "**Indenture**"). The Convertible Debentures are, pursuant to their terms and the terms of the Indenture, convertible by their holders into Common Shares and may also be redeemed or, in certain circumstances, repaid upon maturity by Quarterhill by way of the issuance of Common Shares without the consent of their holders.

In addition, our articles and by-laws allow Quarterhill to issue an unlimited number of Common Shares for such consideration and on such terms and conditions as shall be established by the Board, in many cases, without shareholder approval, and shareholders will have no pre-emptive rights in connection with such further issuances. Including as disclosed above, we may issue additional Common Shares in subsequent offerings (including through the sale of securities convertible into or exchangeable for Common Shares).

We cannot predict the size of future issuances of Common Shares and/or other securities or the effect that future issuances and sales of Common Shares and/or other securities will have on the market price of the Common

Shares. Issuances of a substantial number of additional Common Shares and/or other securities, or the perception that such issuances could occur, may adversely affect prevailing market prices for the Common Shares. If any of these Common Shares and/or other securities (including any Common Shares issued upon the exercise of options, restricted share units and/or performance share units or upon the conversion, redemption or maturity of the Convertible Debentures) 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. With any additional issuance of Common Shares and/or other securities, holders of Common Shares will suffer dilution to their voting power and Quarterhill may experience dilution in its earnings per Common Share.

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;
- fund future acquisitions;
- 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. Additional capital raised through debt financing would require us to make periodic interest payments and may impose restrictive covenants on the conduct of our business. Further, 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.

We incur increased costs and regulatory burden and devote substantial management time because we are a public company.

As a public company, we incur increased legal, accounting and other costs not incurred by private companies. We are subject to, among other things, the rules and regulations of the Canadian Securities Administrators as well as the rules and regulations implemented by the TSX and the OTCQX Best Market. Compliance with these requirements increases our legal and financial compliance costs and makes some activities more time consuming and costly. In addition, our management and other personnel need to divert attention from operational and other business matters to devote substantial time to these public company requirements. We have made, and will continue to make, changes to our financial management control systems and other areas to manage our obligations as a public company, including corporate governance, corporate controls, disclosure controls and procedures and financial reporting and accounting systems. However, we cannot provide assurance that these and other measures that we might take will be sufficient to allow us to satisfy our obligations as a public company on a timely basis.

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

The obligations of being a public company require significant expenditures and place significant demands on our management. We require an annual audit of our consolidated financial statements to be attested to by an independent auditing firm. If an independent auditing firm is unable to provide us with an unqualified auditor's report, 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 interpretations 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 International Financial Reporting Standards which are subject to interpretations by the various Canadian Securities Administrators and various accounting bodies. We are also subject to various tax laws in many jurisdictions which are generally complex, frequently changing and often ambiguous. Changes to tax laws, changes to financial accounting 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.

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 Canadian law and its principal executive offices are located in Canada. Most 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. Further, 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. See also "Forward Looking and Other Statements".

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 local governmental tax authorities on various tax matters in the jurisdictions in which we or our operating subsidiaries conduct business, including challenges to various positions adopted in our filings and foreign tax liability and withholding. We generally recognize tax assets and 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.

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.

5. Dividends

For each of our three most recently completed fiscal years, the Board has declared the following dividends on the Common Shares:

Dividend Declaration Date	Dividend Record Date	Dividend Payment Date	Dividend per Common Share
November 6, 2019	December 13, 2019	January 10, 2020	CDN\$0.0125
February 26, 2020	March 20, 2020	April 3, 2020	CDN\$0.0125
May 20, 2020	June 12, 2020	July 3, 2020	CDN\$0.0125
August 5, 2020	September 11, 2020	October 9, 2020	CDN\$0.0125
November 4, 2020	December 11, 2020	January 11, 2021	CDN\$0.0125
March 10, 2021	March 19, 2021	April 9, 2021	CDN\$0.0125
May 5, 2021	June 18, 2021	July 9, 2021	CDN\$0.0125
August 4, 2021	September 10, 2021	October 9, 2021	CDN\$0.0125
November 9, 2021	December 10, 2021	January 10, 2022	CDN\$0.0125
March 9, 2022	March 18, 2022	April 8, 2022	CDN\$0.0125
May 11, 2022	June 17, 2022	July 8, 2022	CDN\$0.0125
August 10, 2022	September 9, 2022	October 7, 2022	CDN\$0.0125
November 9, 2022	December 9, 2022	January 9, 2023	CDN\$0.0125
March 21, 2023	March 31, 2023	April 11, 2023	CDN\$0.0125

Each of these dividends has been designated as an "eligible dividend" for the purposes of Canadian federal and provincial income tax laws. Until otherwise noted on Quarterhill's Internet website, any subsequent dividends paid by the Company will also be "eligible dividends".

We intend to continue declaring quarterly dividends in line with our overall financial performance and cash flow generation, but there can be no assurance as to the amount or payment of dividends in the future. Decisions on dividend payments are made on a quarterly basis by the Board.

6. Capital Structure

Quarterhill is authorized to issue an unlimited number of Common Shares, 6,350.9 special preferred shares and an unlimited number of preferred shares, issuable in series. We are also authorized to issue the Convertible Debentures. There are no issued or outstanding special preferred shares or preferred shares.

On December 31, 2022, 114,639,700 Common Shares were issued and outstanding and we had options outstanding to purchase up to 8,69,951 Common Shares, restricted share units outstanding that may result in the issuance of up to 440,055 Common Shares and performance share units outstanding that may result in the issuance of up to

68,624 Common Shares. In addition, at December 31, 2022, we had outstanding Convertible Debentures with an aggregate principal amount of \$57,500,000.

The following is a summary of the rights, privileges, restrictions and conditions attaching to our Common Shares, special preferred shares, preferred shares and Convertible Debentures.

Common Shares

The holders of Common Shares are entitled to notice of and to vote at all meetings of shareholders (except meetings at which only holders of a specified class or series of shares are entitled to vote) and are entitled to one vote per share. Subject to the preferences accorded to holders of preferred shares and any other shares ranking senior to the Common Shares from time to time with respect to the payment of dividends, holders of Common Shares are entitled to receive, if, as and when declared by the Board, such dividends as may be declared thereon by the Board from time to time. In the event of the liquidation, dissolution or winding-up of Quarterhill, or any other distribution of assets among our shareholders for the purpose of winding-up our affairs (any such event, a "Distribution"), holders of Common Shares, subject to the preferences accorded to holders of preferred shares and any of Quarterhill's other shares ranking senior to the Common Shares from time to time with respect to payment on a Distribution, are entitled to share equally, share for share, in our remaining property.

Special Preferred Shares

The holders of our special preferred shares are not entitled, subject to applicable law, to receive notice of or to attend any meeting of Quarterhill's shareholders and are not entitled to vote at such meetings. The special preferred shares rank ahead of all other classes of our shares with respect to the payment of dividends and the holders are entitled to receive a fixed non-cumulative dividend up to a maximum of CDN\$3.50 per year. In the event of a Distribution, the holders of special preferred shares are entitled to receive CDN\$50.00 per share together with any declared but unpaid dividends prior to any payment or distribution to any of our other classes of shares, but shall not be entitled to share any further in the Distribution. The Board may, at its option, redeem all or any of the special preferred shares at any time for CDN\$50.00 per share plus the amount of any declared but unpaid dividends. Each holder of special preferred shares may require Quarterhill to redeem all or any of their shares at any time after April 28, 2000 for CDN\$50.00 plus the amount of any declared but unpaid dividends.

Preferred Shares

Our preferred shares at any time and from time to time may be issued in one or more series, each series to consist of such number of shares as may, before the issuance thereof, be determined by the Board. From time to time the Board may fix, before the designation of a series, the rights, privileges, restrictions and conditions attaching to each series of preferred shares including, without limiting the generality of the foregoing: the amount, if any, specified as being payable preferential to such series on a Distribution; the extent, if any, of further participation in a Distribution; voting rights, if any; and dividend rights (including whether such dividends be preferential, or cumulative or non-cumulative), if any. In the event of the voluntary or involuntary liquidation, dissolution or winding-up of Quarterhill, or any other Distribution, holders of each series of preferred shares will be entitled, in priority to holders of Common Shares and any of our other shares ranking junior to the preferred shares from time to time with respect to payment on a Distribution, to be paid rateably with holders of each other series of preferred shares the amount, if any, specified as being payable preferentially to the holders of such series on a Distribution. The holders of each series of preferred shares will be entitled, in priority to holders of Common Shares and any of our other shares ranking junior to the preferred shares from time to time with respect to the payment of dividends, to be paid rateably with holders of each other series of preferred shares, the amount of accumulated dividends, if any, specified as being payable preferentially to the holders of such series.

Convertible Debentures

On October 27, 2021, we completed a public offering of Convertible Debentures in the aggregate principal amount of \$57,500,000 (including the full exercise of an over-allotment option by the underwriters), which Convertible Debentures were issued pursuant to and are subject to the terms and provisions of the Indenture. The following summary of certain provisions of the Indenture is subject to, and is qualified in its entirety by reference to, the provisions of the Indenture, a copy of which is available on SEDAR at www.sedar.com.

The Convertible Debentures have a maturity date of October 30, 2026 (the "Maturity Date") and bear interest at a rate of 6.00% per annum, payable semi-annually not in advance, on October 31 and April 30 in each year, commencing on April 30, 2022, and are convertible at the option of their holders into Common Shares at a

conversion rate of 263 Common Shares per \$1,000 principal amount of Convertible Debentures, resulting in an effective conversion price of \$3.80 (the "**Conversion Price**").

On or after October 31, 2024 and prior to October 31, 2025, the Convertible Debentures may be redeemed by Quarterhill, in whole or in part from time to time, on not more than 60 days and not less than 30 days prior notice, at a redemption price equal to the principal amount thereof plus accrued and unpaid interest, provided that the volume weighted average trading price per Common Share on the TSX for the 20 consecutive trading days ending on the fifth trading day immediately preceding the date on which notice of redemption is given (the "**Current Market Price**") is not less than 125% of the Conversion Price.

On or after October 31, 2025 and prior to the Maturity Date, the Convertible Debentures may be redeemed, in whole or in part, at Quarterhill's option on not more than 60 days and not less than 30 days prior notice at a price equal to their principal amount plus accrued and unpaid interest. Subject to required regulatory approval and provided that there is not a current event of default (as defined in the Indenture), we may, at our option, elect to satisfy our obligation to pay the principal amount of the Convertible Debentures on redemption or at maturity, in whole or in part, through the issuance of freely tradable Common Shares upon at least 40 days and not more than 60 days prior notice, by delivering that number of Common Shares obtained by dividing the principal amount of the Convertible Debentures which are to be redeemed or have matured by 95% of the Current Market Price. Any accrued or unpaid interest will be paid in cash.

7. Market for Securities

Trading Price and Volume of Common Shares

The Common Shares are listed and posted for trading on the TSX under the symbol "QTRH". The volume of trading and price range of the Common Shares for the periods indicated are set forth below.

Month	Volume	High Trading Price	Low Trading Price
January 2022	4,626,400	\$2.72	\$2.46
February 2022	4,425,300	\$2.62	\$2.11
March 2022	4,823,200	\$2.56	\$2.03
April 2022	2,528,900	\$2.53	\$2.18
May 2022	2,170,400	\$2.35	\$1.96
June 2022	1,539,100	\$2.27	\$1.85
July 2022	1,654,600	\$2.25	\$1.72
August 2022	1,805,600	\$2.32	\$1.85
September 2022	3,752,400	\$1.94	\$1.63
October 2022	1,475,000	\$1.75	\$1.52
November 2022	2,322,400	\$1.70	\$1.47
December 2022	2,738,000	\$1.59	\$1.45

Trading Price and Volume of Convertible Debentures

The Convertible Debentures are listed and posted for trading on the TSX under the symbol "QTRH.DB". The volume of trading and price range of the Convertible Debentures for the periods indicated are set forth below.

Month	Volume	High Trading Price	Low Trading Price
January 2022	3,140,000	\$105.19	\$103.50
February 2022	5,250,000	\$103.50	\$99.25
March 2022	327,000	\$100.36	\$97.51
April 2022	137,000	\$102.20	\$98.93
May 2022	144,000	\$98.50	\$96.31
June 2022	142,000	\$102.00	\$94.48
July 2022	217,000	\$98.30	\$93.75
August 2022	47,000	\$94.00	\$93.09
September 2022	104,000	\$96.48	\$91.50
October 2022	162,000	\$95.86	\$90.87
November 2022	98,000	\$95.86	\$88.13
December 2022	7,000	\$94.65	\$93.00

8. Directors and Officers

Directors

The following table sets forth the name, province (or state) and country of residence of each member of the Board, their position with Quarterhill and the year in which they joined the Board. The term of office for each of the directors will expire at the time of the next annual shareholders' meeting.

Name and Province / State of Residence	Position Held with Quarterhill	First Year as a Director
Roxanne Anderson ⁽¹⁾ Ontario, Canada	Director, Audit Committee Chair	2015
Dr. Michel Tewfik Fattouche ⁽²⁾⁽³⁾ Calgary, Canada	Director	2020
John Kendall Gillberry ⁽⁴⁾⁽⁵⁾ Ontario, Canada	Chair of the Board, Interim President & Chief Executive Officer	2005
Rusty Lewis ⁽²⁾⁽⁴⁾ Pennsylvania, USA	Director, Nominating Committee Chair	2022
James Skippen ⁽²⁾⁽⁶⁾ Ontario, Canada	Vice-Chair of the Board, Compensation Committee Chair	2006
Pamela Steer ⁽¹⁾ Ontario, Canada	Director	2022
Kimberly Stevenson ⁽³⁾⁽⁴⁾ Maryland, USA	Director, ESG Committee Chair	2022
Anna Tosto ⁽¹⁾⁽³⁾ Ontario, Canada	Director	2021

(1) Audit Committee member

(2) Compensation Committee member

(3) Environmental, Social & Governance Committee member

(4) Nominating Committee member

(5) Mr. Gillberry has advised the Board that he will not be standing for re-election to the Board in 2023.

(6) Mr. Skippen has advised the Board that he will not be standing for re-election to the Board in 2023.

At December 31, 2022, as a group, our directors and executive officers beneficially owned, directly or indirectly, or exercised control over approximately 2,887,000 Common Shares, representing approximately 2.52% of the outstanding Common Shares at that date.

Except as disclosed below, each of the members of the Board has been engaged for more than five years in their present principal occupation or in other capacities with the organization (or predecessor thereof) in which they currently hold their principal occupation. The information provided below has been provided by the individuals themselves and has not been independently verified by us.

Roxanne Anderson: September 2019 to present – Senior Vice-President & Chief Financial Officer, Victorian Order of Nurses, a Canadian non-profit organization working to provide clinical, personal and social support to persons living in their own homes and communities. July 2012 to present – Chief Executive Officer of March Advisory Inc., an advisory company specializing in corporate transformation and turnaround mandates. September 1985 to July 2012 – various roles with PricewaterhouseCoopers LLP.

Dr. Michel Tewfik Fattouche: September 2013 to present – Professor Emeritus, Electrical and Computer Engineering, Schulich School of Engineering, University of Calgary; July 1986 to September 2013 – Professor Electrical and Computer Engineering, Schulich School of Engineering, University of Calgary.

John Kendall Gillberry: March 2023 to present – Interim President & Chief Executive Officer of Quarterhill. 1996 to present – Founder and President, Bayfield Capital Group, a corporate finance advisory firm focused on special situations. October 20, 2020 to December 2021 – Chief Executive Officer and member of the Board of Directors, Lendified Holdings Inc., a Canadian FinTech company providing capital loans to small businesses throughout Canada. June 1, 2018 to February 2019 – member of the Board of Directors, Imagination Park Entertainment Inc.

April 1, 2017 to October 31, 2018 – Chief Executive Officer, Coreworx Inc., a Canadian integrated information management software and services company. September 16, 2015 to October 2016 – Chief Executive Officer and Director of GuestLogix Inc., a global provider of ancillary-focused merchandising, payment and business intelligence technology to airlines and the passenger travel industry.

Rusty Lewis: 2010 to present – Senior Advisor to Brown Brothers Harriman Capital Partners. 2018 to present – Chairman, Board of Directors of Binswanger, a US private full-service commercial real estate company. 2015 to 2018 – Head of Brown Brothers Harriman's Philadelphia Office for Private Banking. From 1986 to 1994, Mr. Lewis owned and managed Transcore, which led the market in RFID electronic toll collection systems. He ultimately sold Transcore to SAIC (most recently owned by Roper Industries) in 1994.

James Skippen: April 2019 to present – Vice-Chairperson of Quarterhill. April 2017 to April 2019 – Chairman of the Board of Quarterhill. June 2006 to April 2017 – Board member, Chief Executive Officer & President of Old WiLAN. June 2017 to August 2018 – Acting Chief Executive Officer of WiLAN. June 2018 to February 2019 – member of the Board of Directors, Imagination Park Entertainment Inc. and, from October 2018 to February 2019, Chairman of the Board of Directors, Imagination Park Entertainment Inc.

Pamela Steer: April 2022 to present: President & Chief Executive Officer of Chartered Professional Accountants of Canada, the body that works with provincial and territorial CPA bodies as well as with the International Federation of Accountants and the Global Accounting Alliance to build a stronger accounting profession worldwide. June 2019 to January 2021 – initially, Chief Financial Officer and, subsequently, Chief Financial and Corporate Strategy Officer for Payments Canada, the organization that owns and operates Canada's payment clearing and settlement infrastructure. May 2012 to May 2019 – initially, Vice-President, Finance and, subsequently, Chief Financial Officer and Head, Finance and Employer Services for Ontario's Workplace Safety and Insurance Board.

Kim Stevenson: November 2020 to present: Lead Independent Director on the Board of Directors of Mitek Systems, Inc., a Nasdaq-listed global leader in mobile capture and digital identity verification solutions using artificial intelligence and machine learning to enable its customers to verify their users' identities during digital transactions. January 2020 to August 2021: Senior Vice President & General Manager, Foundational Data Service Business Unit for NetApp, Inc., a Nasdaq-listed cloud data services company. February 2019 to January 2020: venture partner at RIDGE-LANE Limited Partners, a strategic advisory and venture development firm. May 2017 to October 2018: Senior Vice President and General Manager, Data Centre Products and Solutions at Lenovo Group Ltd, a manufacturer of personal computers, data centre equipment, smartphones and tablets.

Anna Tosto: September 2009 to present - partner at the law firm of Fasken Martineau DuMoulin LLP with a practice focusing on corporate financing for the technology and transportation sectors including assisting clients on asset-based finance as well as mergers, acquisitions, reorganizations and large contract negotiations. Ms. Tosto articulated and began her legal career as an associate in the Ottawa office of Gowlings WLG. From there, she moved to McCarthy Tétrault, ultimately becoming the office managing partner. After 20 years at McCarthy's, she moved to Fasken's.

Executive Officers

The following table sets forth the name, province (or state) and country of residence and position with Quarterhill of each person who is an executive officer at the date of this Annual Information Form.

Name and Province of Residence	Office(s) with Quarterhill
John Gillberry Ontario, Canada	Interim President & Chief Executive Officer
John Karnes Texas, USA	Chief Financial Officer
James M. Childress Texas, USA	Chief Technology Officer
Kevin Holbert Texas, USA	ETC Chief Executive Officer
Rish Malhotra Saskatchewan, Canada	IRD Chief Executive Officer

Name and Province of Residence	Office(s) with Quarterhill
Andrew Parolin Ontario, Canada	WiLAN President & Chief Executive Officer
Prashant Watchmaker Ontario, Canada	Senior Vice-President, General Counsel & Corporate Secretary

Except as disclosed below, each of these executive officers has been engaged for more than five years in their present principal occupations or in other capacities with the organization (or predecessor thereof) in which they currently hold their principal occupation. The information provided below has been provided by the individuals themselves and has not been independently verified by us.

John Gillberry: please see Mr. Gillberry's information above under the heading "Directors".

John Karnes: June 2022 to present – Chief Financial Officer of Quarterhill. January 2021 to June 2022 – Chief Financial Officer & General Counsel of RecordXTechnologies, LLC, a SaaS company providing record retrieval services to the insurance and medical industries. October 2018 to May 2020 – Chief Financial Officer of Vertafore Inc., a SaaS company providing agency management software to the insurance industry. December 2017 to October 2018 – Chief Financial Officer of SambaSafety LLC, a SaaS company providing driver monitoring services.

James M. Childress: January 2023 to present - Chief Technology Officer of Quarterhill. March 2021 to December 2022 – ETC Chief Technology Officer. February 2009 to March 2021 - President & Owner, James M. Childress Consulting, LLC, an independent consultant providing information technology services for various organizations including Hawaiian Airlines and BMO Bank of Montreal.

Kevin Holbert: January 2022 to present - President & Chief Executive Officer of ETC. January 2021 to January 2022 – ETC Chief Commercial Officer. January 2018 to January 2021 – Executive Vice-President, Business Development of ETC.

Rish Malhotra: June 2020 to present - President & Chief Executive Officer of IRD. 2019 to June 2020 – Executive Vice-President & Chief Operating Officer, IRD. 2015 to 2019 – Vice-President, International Business of IRD.

Andrew Parolin: May 2022 to present – President & Chief Executive Officer of WiLAN. July 3, 2014 to May 2022 – Senior Vice-President & Business Unit Leader of WiLAN.

Prashant Watchmaker: April 2017 to present – Senior Vice-President, General Counsel & Corporate Secretary of Quarterhill.

Cease Trade Orders, Bankruptcies, Penalties or Sanctions

Except as set forth below, as of the date of this Annual Information Form, none of our directors or executive officers and, to our knowledge, no shareholder holding a sufficient number of our securities to materially affect Quarterhill's control is or was, in the 10 years preceding the date of this Annual Information Form, (a) a director, chief executive officer or chief financial officer of any company (including Quarterhill) that was subject to a cease trade or similar order or an order that denied any such company access to any exemption under securities legislation for a period of more than 30 consecutive days, (b) a director or executive officer of any company (including Quarterhill) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under legislation relating to any bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets or (c) made a proposal under any legislation relating to bankruptcy or insolvency, or became subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of such director, executive officer or shareholder.

We understand that: (1) the Ontario Superior Court of Justice granted an initial order under the *Companies' Creditors Arrangement Act* (Canada) on February 9, 2016 staying all claims and actions against GuestLogix Inc. and its assets and allowing GuestLogix to prepare a plan of compromise or arrangement for its creditors; (2) GuestLogix's securities were suspended from trading on the TSX on February 9, 2016 while it conducted a review of whether it met the TSX's listing requirements; and (3) on February 18, 2016, the TSX notified GuestLogix that its securities would be delisted from the TSX effective March 18, 2016 for failure to meet the applicable listing conditions. Mr. John Gillberry was a director of GuestLogix from March 2015 to September 2016 and was its interim chief executive officer from September 2015 to September 2016.

Further, we understand that DataWind Inc. was subject to a cease trade order from September 7, 2016 to November 25, 2016 and a management cease trade order effective July 6, 2016 by the Ontario Securities Commission on July for failure to file its audited financial statements and related materials for its fiscal year ended March 31, 2016 and its interim unaudited financial statements and related materials for the 3-month period ended June 30, 2016, which cease trade orders were revoked on November 25, 2016. Mr. John Gillberry was a director of DataWind from July 2014 to October 2016.

None of our directors or executive officers and, to our knowledge, no shareholder holding a sufficient number of our securities to materially affect Quarterhill's control, within the 10 years preceding the date of this Annual Information Form, has become bankrupt, made a proposal under any bankruptcy or insolvency related legislation or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets.

9. Audit Committee Information

Audit Committee Charter

The text of the Audit Committee's Charter is attached at **Appendix "A"** to this Annual Information Form. In 2021, the Audit Committee's Charter was amended to include responsibilities for "cyber" and information security matters.

Composition

The current members of the Audit Committee are Roxanne Anderson (Chair), Pamela Steer and Anna Tosto, each of whom is an "independent" director and each of whom is "financially literate" as such terms are defined in Multilateral Instrument 52-110 – Audit Committees of the Canadian Securities Administrators. In addition, each of Ms. Anderson and Ms. Steer are "financial experts" in that each of them is a person having the following attributes:

- (i) an understanding of generally accepted accounting principles and financial statements;
- (ii) the ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves;
- (iii) experience preparing, auditing, analyzing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by Quarterhill's financial statements, or experience actively supervising one or more persons engaged in such activities; and
- (iv) an understanding of audit committee functions;

all of which attributes were acquired through one or more of the following:

- (I) education and experience as a principal financial officer, principal accounting officer, controller, public accountant or auditor or experience in one or more positions that involve the performance of similar functions;
- (II) experience actively supervising a principal financial officer, principal accounting officer, controller, public accountant, auditor or person performing similar functions;
- (III) experience overseeing or assessing the performance of companies or public accountants with respect to the preparation, auditing or evaluation of financial statements; or
- (IV) other relevant experience.

Education and Experience

Roxanne Anderson holds B.Comm. and MBA degrees from McMaster University in Hamilton, Ontario and is a Fellow Chartered Professional Accountant and Fellow Chartered Accountant with more than 30 years of industry experience principally with PricewaterhouseCoopers LLP where she held various roles including Managing Partner of the National Federal Government Service Practice and Managing Partner of the Ottawa, Canada office.

Ms. Anderson also holds the ICD.D designation from the Institute of Corporate Directors. Ms. Anderson has been a member of the Board since May 13, 2015, a member of the Audit Committee since June 24, 2015 and Chair of the Environmental, Social & Governance Committee (previously, the "Governance Committee") since May 3, 2017.

Pamela Steer holds a Master of Accounting degree from the University of Waterloo in Waterloo, Ontario and holds a CPA Fellow (FCPA, FCA) designation from the Chartered Professional Accountants of Canada. She holds the Chartered Financial Analyst designation from the CFA Institute and the Chartered Business Valuator designation from The Canadian Institute of Chartered Business Valuators. Ms. Steer was awarded the title of Canada's CFO of the Year in 2019. Ms. Steer has been a member of the Board since April 21, 2022 and a member of the Audit Committee since May 11, 2022.

Anna Tosto hold an LLB from the University of Ottawa. With over 35 years of private law firm experience, she has practiced extensively in the area of corporate finance. Ms. Tosto has also been a member of the finance and audit committees of large private institutions as well as of a financial co-op and of a Canadian federal bank, including positions as Chair, Vice-Chair or Executive Committee member of these committees. Ms. Tosto has been a member of the Board since April 14, 2021 and a member of the Audit Committee since March 20, 2023.

Based on the information provided by each director presented above, we believe that all members of the Audit Committee are "financially literate" as that term is defined in Multilateral Instrument 52-110.

Pre-approval of Non-Audit Services

The following describes our policy relating to the engagement of our external auditors for the provision of non-audit services.

When requiring the use of accounting, taxation and other consulting services, we will not utilize the services of our current external auditor where the delivery of the service may create a potential or perceived conflict of interest. Consulting services which require subsequent external auditing cannot be performed by our auditors. For greater clarity, the following consulting services do not present a conflict of interest: acquisition due diligence services; advice relating to the accounting treatment of new accounting pronouncements or services ancillary to the audit; preparation of corporate tax returns; and advice on tax related matters.

Non-audit services to be provided by the external auditors must be pre-approved by the Audit Committee.

External Auditor Service Fees ⁽¹⁾

	Fiscal 2022	Fiscal 2021
Audit Fees ⁽²⁾	\$428	\$730
Audit-related Fees ⁽³⁾	138	376
Tax Fees ⁽⁴⁾	-	-
All Other Fees ⁽⁵⁾	46	56
Total Fees Billed	\$612	\$1,162

(1) All amounts (including in these notes) are in thousands of Canadian dollars.

(2) "Audit Fees" consist of the aggregate fees of Ernst & Young LLP, Quarterhill's auditors, for professional services rendered by them for the audit of our annual financial statements, our internal control over financial reporting, reading our MD&A, and related services that are normally provided by them in connection with statutory and regulatory filings or engagements.

(3) "Audit-related Fees" consist of the aggregate fees billed by Ernst & Young LLP for assurance and related services rendered by them that are reasonably related to the performance of the audit or review of our financial statements and are not reported as Audit Fees. Professional services provided include review and "selected procedures" of quarterly financial statements, auditor transition fees, prospectus review fees and accounting advice on certain matters.

(4) "Tax Fees" consist of the aggregate fees billed by Ernst & Young LLP for professional services rendered by them for tax compliance, tax advice and tax planning. Tax services included advisory services and review and filing of annual income tax returns.

(5) "All Other Fees" consist of fees billed by Ernst & Young LLP for products and services other than Audit Fees, Audit Related Fees and Tax Fees.

Information Security Matters

As set out in the Audit Committee's Charter, in addition to its other responsibilities, our Audit Committee is required to "review, discuss with senior management and assess (including receiving and reviewing Board recommendations as necessary) on at least an annual basis Quarterhill's privacy and information/cybersecurity

risk exposures including, without limitation, the following: (1) the potential impact of those exposures on Quarterhill's and its subsidiaries' respective businesses, operations and reputations; (2) the steps senior management has taken to monitor and mitigate such exposures and any insurance coverage relating to such exposures; (3) material security breach incidence reports and incident response protocols, including crisis management and disaster recovery plans; (4) Quarterhill disclosures relating to information/cybersecurity risks; (5) Quarterhill's information/cybersecurity strategy, including the allocation of resources to the management of information/cybersecurity risks; and (6) major legislative and regulatory developments affecting Quarterhill and/or its subsidiaries that could materially impact Quarterhill's or such subsidiaries' respective privacy and information/cybersecurity risk exposure, if any" (collectively, "**Information Security Matters**").

Each current member of the Audit Committee has experience and skills relating to Information Security Matters developed in corporate leadership roles.

Despite the requirement to review Information Security Matters "on at least an annual basis", the Audit Committee requires Quarterhill management to provide updates as to all Information Security Matters, including with respect to management's information security training programs, at each regularly scheduled quarterly meeting of the Audit Committee. In addition, Quarterhill management is required to immediately advise the Audit Committee of any material information security events.

Quarterhill and its operating subsidiaries have implemented industry leading technologies with respect to Information Security Matters to identify and mitigate information security risks to the organization. In addition, Quarterhill and its operating subsidiaries have implemented an awareness program relating to Information Security Matters for all employees.

10. Legal Proceedings

In the normal course of our business, we and our operating subsidiaries are subject to various legal claims, as well as potential legal claims. While the results of litigation and claims cannot be predicted with certainty, we do not believe that any litigation to which we or our operating subsidiaries are party involves a claim for damages against us or any of our subsidiaries, exclusive of interest and costs, in excess of 10% of our consolidated current assets, nor do we believe that any liability arising from any such litigation will have a material adverse effect on our consolidated financial position, results of operations or cash flows.

11. Interests in Material Transactions

No material transactions with the directors, senior officers, promoters or principal holders of our securities or any of their respective affiliates or associates have occurred in the last three completed fiscal years or the current fiscal year. All of our current executive officers joined Quarterhill during the period from October 2007 through September 2021 and entered into employment or consulting agreements with us in the normal course of business.

12. Transfer Agent and Registrar

The registrar and transfer agent for the Common Shares is Computershare Investor Services Inc. at its offices in Toronto, Ontario. The registrar and transfer agent for the Convertible Debentures is Computershare Trust Company of Canada at its offices in Toronto, Ontario.

13. Material Contracts

We did not enter into any material contracts during our 2021 fiscal year other than in the ordinary course of our business and we are not currently party to any material contracts entered into in prior fiscal years that are still in effect other than in the ordinary course of our business except for the following:

- the Indenture dated October 27, 2021 between Quarterhill and Computershare Trust Company of Canada relating to the Convertible Debentures;
- the Underwriting Agreement dated October 22, 2021 between Quarterhill and certain underwriters entered into in connection with the public offering of the Convertible Debentures; and

- the ITS Credit Agreement dated September 1, 2021 between Quarterhill ITS and HSBC Bank Canada and the other Lenders from time to time party thereto as amended on September 16, 2021, December 21, 2021, April 29, 2022 and March 21, 2023.

14. Interests of Experts

Our independent registered public accounting firm is Ernst & Young LLP, Chartered Accountants, EY Tower, 100 Adelaide Street West, Toronto, Ontario, first appointed on November 30, 2020. Ernst & Young LLP are independent within the meaning of the Rules of Professional Conduct of the Chartered Professional Accountants of Ontario.

15. Additional Information

Additional information with respect to Quarterhill, including remuneration and indebtedness of directors and officers, principal holders of our securities and options to purchase securities is contained in the information circular in respect of our annual and special meeting of shareholders currently scheduled to be held on April 21, 2022 that will be delivered to shareholders in advance of that meeting. Additional financial information is provided in our audited financial statements and management's discussion and analysis for our 2021 fiscal year. Additional information relating to Quarterhill may be found on the SEDAR website at www.sedar.com.

Appendix "A" – Audit Committee Mandate

QUARTERHILL INC. AUDIT COMMITTEE CHARTER

1. Policy Statement

Quarterhill Inc. ("**Quarterhill**") has established and maintains an Audit Committee (the "**Committee**") to assist Quarterhill's directors (individually, each, a "**Director**" and collectively the "**Board**") in carrying out the Board's oversight responsibility for accounting, internal controls, financial reporting, audits of financial statements and enterprise risk management processes of Quarterhill and its subsidiaries.

The Committee shall be provided with resources commensurate with the duties and responsibilities assigned to it by the Board including appropriate administrative support. Without limiting the generality of the foregoing, Quarterhill shall provide for appropriate funding, as determined by the Committee in its capacity as a committee of the Board, for payment of: (a) compensation to any registered public accounting firm engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for Corporation (the "**Auditors**"); (b) compensation to any advisers employed by the Committee under **Section 4(c)(iii)** below; and (c) ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

If determined appropriate by the Committee, it shall have the discretion to institute investigations of improprieties, or suspected improprieties within the scope of its responsibilities, including the standing authority to retain special counsel or other experts. The Committee shall have unrestricted access to the Auditors, is authorized to seek any information that it requires from any employee and all employees are directed to co-operate with any request made by the Committee.

2. Composition of Committee

- (a) The Committee shall consist of a minimum of 3 Directors (the "**Members**"). The Board shall appoint the Members and may seek the advice and assistance of the Nominating Committee and Environmental, Social & Governance Committee of the Board in identifying qualified candidates. The Board shall appoint one Member to be the chairperson of the Committee (the "**Chair**").
- (b) All of the Members shall be Directors who are independent within the meaning of National Instrument 52-110 – Audit Committees of the Canadian Securities Administrators and the rules of any stock exchange or market on which Quarterhill's shares are listed or posted for trading (collectively, "**Applicable Governance Rules**"). In this Charter, the term "independent" includes the meanings given to similar terms by Applicable Governance Rules, including the terms "non-executive", "outside" and "unrelated" to the extent such terms are applicable under Applicable Governance Rules. No Member shall have participated in the preparation of the financial statements of Quarterhill or any current subsidiary of Quarterhill at any time during the past 3 years.
- (c) All Members must be "financially literate" as such term is used in National Instrument 52-110 – Audit Committees of the Canadian Securities Administrators and subject to the provisions of the Applicable Governance Rules.
- (d) At least one Member must have past employment experience in finance or accounting, requisite professional certification in accounting or any other comparable experience or background that results in the individual's financial sophistication, including service as a chief executive officer, chief financial officer, or other senior officer with financial oversight responsibilities.
- (e) At least one Member must be an "audit committee financial expert" as defined by rules applicable to United States public companies.
- (f) Each Director appointed by the Board to the Committee shall be a Member until replaced by the Board or until their resignation.
- (g) Subject to applicable laws and the requirements of any applicable stock exchange or other regulatory body, each of the Chairperson of the Board and the Vice-Chairperson of the Board shall serve as an *ex officio* member of the Committee unless either such person serves as an official Member.

3. Meetings of the Committee

- (a) The Committee shall convene a minimum of 4 times each year at such times and places as may be determined by the Chair, and whenever a meeting is requested by the Board, a Member, the Auditors or Quarterhill's senior management. Scheduled meetings of the Committee shall correspond with the review of the quarterly and year-end financial statements, management discussion and analysis, and related press releases.
- (b) The provisions of Quarterhill's applicable By-Laws shall govern the calling of and procedures for any meeting of the Committee.
- (c) In the absence of the Chair, the Members shall choose one of the Members present to be chair of the meeting. In addition, the Members shall choose one of the persons present to be the secretary of the meeting.
- (d) Quarterhill's Chief Executive Officer (the "**CEO**") and Chief Financial Officer (the "**CFO**") are each expected to attend meetings of the Committee and the Committee may invite such other persons to attend meetings of the Committee as it considers appropriate, except to the extent exclusion of certain persons is required pursuant to this Charter or by applicable laws.
- (e) Each Director who is not a Member may attend any meetings of the Committee.
- (f) The Committee may invite the Auditors to be present at any meeting of the Committee and to comment on any financial statements or on any of the financial aspects of Quarterhill.
- (g) The Committee shall meet with the Auditors separately from individuals other than the Committee and may meet separately with management of Quarterhill.
- (h) Minutes shall be kept of all meetings of the Committee and shall be signed by the chair and the secretary of the meeting. The Chair shall make the minutes of the meetings of the Committee available to all members of the Board.

4. Duties and Responsibilities of the Committee

- (a) The Committee, in its capacity as a committee of the Board, is directly responsible for the appointment (through nomination to the shareholders), compensation, retention and oversight of the work of the Auditors, and the Auditors must report directly to the Committee. Specifically, the Committee will select, evaluate and nominate the external auditors to be proposed for appointment or reappointment, as the case may be, by the shareholders, and will have responsibility for determining at any time whether the Board should recommend to Quarterhill's shareholders whether the incumbent Auditors should be removed from office.
- (b) The other primary duties and responsibilities of the Committee are to:
 - (i) identify and monitor the management of the principal risks that could impact the financial reporting of Quarterhill;
 - (ii) monitor the integrity of Quarterhill's financial reporting process and system of internal controls regarding financial reporting and accounting compliance;
 - (iii) monitor the independence, objectivity and performance of the Auditors, including, without limitation:
 - 1. ensuring the Committee's receipt from the Auditors at least annually of a formal written statement delineating all relationships between the Auditors and Quarterhill;
 - 2. actively engaging in dialogue with the Auditors with respect to any disclosed relationships or services that may impact the objectivity and independence of the Auditors; and
 - 3. taking, or recommending that the Board take, appropriate action to oversee the independence of the Auditors;

- (iv) deal directly with the Auditors to approve external audit plans, other services (if any) and fees;
 - (v) directly oversee the external audit process and results (in addition to items described in **Section 4(e)** below);
 - (vi) provide an avenue of communication between the Auditors, management and the Board; and
 - (vii) ensure that an effective "whistle blowing" procedure exists to permit stakeholders to express any concerns regarding accounting or financial matters to an appropriately independent individual.
- (c) The Committee shall have the authority to:
- (i) inspect any and all of Quarterhill's and its subsidiaries' books and records;
 - (ii) discuss with the management of Quarterhill and its subsidiaries, any affected party and the Auditors, such accounts, records and other matters as any Member considers appropriate;
 - (iii) engage independent counsel and other advisors as it determines necessary to carry out its duties; and
 - (iv) set and pay the compensation for any advisors engaged by the Committee.
- (d) The Committee shall, at the earliest opportunity after each meeting, report to the Board the results of its activities and any reviews undertaken and make recommendations to the Board as considered appropriate.
- (e) The Committee shall:
- (i) review the annual audit plan with the Auditors and with management;
 - (ii) review with the Auditors the critical accounting policies and practices used by Quarterhill, all alternative treatments of financial information within generally accepted accounting principles that the Auditors have discussed with management, the ramifications of the use of such alternative disclosures and treatments and the treatment preferred by the Auditors;
 - (iii) discuss with management and the Auditors any proposed changes in major accounting policies or principles, the presentation and impact of material risks and uncertainties and key estimates and judgments of management that may be material to financial reporting;
 - (iv) review with management and the Auditors material financial reporting issues arising during the most recent financial period and the resolution or proposed resolution of such issues;
 - (v) review any problems experienced or concerns expressed by the Auditors in performing any audit, including any restrictions imposed by management or any material accounting issues on which there was a disagreement with management;
 - (vi) review with the Auditors any accounting adjustments that were noted or proposed by the Auditors but that were "passed" (as immaterial or otherwise), any communications between the audit team and the Auditors' national office respecting auditing or accounting issues presented by the engagement, any "management" or "internal control" letter or schedule of unadjusted differences issued, or proposed to be issued, by the Auditors to Quarterhill, or any other material written communication provided by the Auditors to Quarterhill's management;
 - (vii) review with senior management the process of identifying, monitoring and reporting the principal risks affecting financial reporting;
 - (viii) review and discuss with management and the Auditors any off-balance sheet transactions or structures and their effect on Quarterhill's financial results and operations, as well as the disclosure regarding such transactions and structures in Quarterhill's public filings;
 - (ix) review the audited annual financial statements (including management discussion and analysis) and related documents in conjunction with the report of the Auditors and obtain an explanation

from management of all material variances between comparative reporting periods;

- (x) consider and review with management, the internal control memorandum, if any, or management letter containing the recommendations of the Auditors and management's response, if any, including an evaluation of the adequacy and effectiveness of the internal financial controls and procedures for financial reporting of Quarterhill and subsequent follow-up to any identified weaknesses;
- (xi) to the extent that it deems appropriate, review with management its evaluation of Quarterhill's procedures and controls designed to assure that information required to be disclosed in Quarterhill's periodic public reports is recorded, processed, summarized and reported in such reports within the time periods specified by the appropriate regulatory authority for the filing of such reports ("**Disclosure Controls**"), and consider whether any changes are appropriate in light of management's evaluation of the effectiveness of such Disclosure Controls;
- (xii) review with management and the Auditors the quarterly unaudited financial statements and management discussion and analysis before release to the public;
- (xiii) before release, review and if appropriate, recommend for approval by the Board, all public disclosure documents containing audited or unaudited financial information, including any prospectuses, annual reports, annual information forms, management discussion and analysis and press releases;
- (xiv) review with management on a periodic basis the procedures surrounding the disclosure of financial information extracted or derived from Quarterhill's financial statements and assess the adequacy of these procedures;
- (xv) periodically meet separately with management and the Auditors;
- (xvi) discuss with management and the Auditors any correspondence with regulatory or governmental agencies that raise material issues regarding Quarterhill's financial statements or accounting policies;
- (xvii) pre-approve all audit and non-audit services to be provided to Quarterhill or its subsidiaries by the Auditors, or the external auditors of subsidiaries of Quarterhill, subject to the overriding principle that the Auditors not be permitted to be retained by Quarterhill to perform internal audit outsourcing services or financial information systems services; provided that notwithstanding the foregoing provisions of this **Section 4(e)(xvii)**, such pre-approval of non-audit services may be delegated to any Member, with any decisions of such Member to be reported to the Committee at its next scheduled meeting;
- (xviii) approve the engagement letter for non-audit services to be provided by the Auditors or affiliates thereof together with estimated fees and consider the potential impact of such services on the independence of the Auditors;
- (xix) when there is to be a change of Auditors, review all issues and provide documentation related to the change, including the information to be included in the notice of change of auditors and documentation required pursuant to the then current legislation, rules, policies and instruments of applicable regulatory authorities and the planned steps for an orderly transition period; and
- (xx) review, discuss with senior management and assess (including receiving and reviewing Board recommendations as necessary) on at least an annual basis Quarterhill's privacy and information/cybersecurity risk exposures including, without limitation, the following: (1) the potential impact of those exposures on Quarterhill's and its subsidiaries' respective businesses, operations and reputations; (2) the steps senior management has taken to monitor and mitigate such exposures and any insurance coverage relating to such exposures; (3) material security breach incidence reports and incident response protocols, including crisis management and disaster recovery plans; (4) Quarterhill disclosures relating to information/cybersecurity risks; (5) Quarterhill's information/cybersecurity strategy, including the allocation of resources to the management of information/cybersecurity risks; and (6) major legislative and regulatory developments affecting Quarterhill and/or its subsidiaries that could materially impact Quarterhill's or such subsidiaries' respective privacy and information/cybersecurity risk exposure, if any.

- (f) The Committee shall enquire into and recommend to the Board the appropriate resolution of any conflict of interest in respect of audit or financial matters which are directed to the Committee by any member of the Board, a shareholder of Quarterhill, the Auditors or senior management.
- (g) Review with the CEO and the CFO any report on significant deficiencies in the design or operation of the internal controls that could adversely affect Quarterhill's ability to record, process, summarize or report financial data, any material weaknesses in internal controls identified to the Auditors, and any fraud, whether or not material, that involves management or other employees who have a significant role in Quarterhill's internal controls.
- (h) The Committee shall establish and maintain procedures for:
 - (i) the receipt, retention and treatment of complaints received by Quarterhill regarding accounting, internal accounting controls, or auditing matters;
 - (ii) the confidential, anonymous submission by employees of Quarterhill of concerns regarding questionable accounting or auditing matters; and
 - (iii) reviewing arrangements by which Quarterhill employees may, in confidence, raise concerns about possible improprieties in matters of financial reporting and ensuring that arrangements are in place for proportionate and independent investigation and follow-up action.
- (i) The Committee shall discuss with management Quarterhill's process for performing its quarterly certifications pursuant to Multilateral Instrument 52-109 - Certification of Disclosure in Issuers' Annual and Interim Filings.
- (j) The Committee shall review Quarterhill's compliance and ethics programs, including consideration of legal and regulatory requirements, and shall review with management its periodic evaluation of the effectiveness of such programs.
- (k) The Committee shall review and approve Quarterhill's hiring policies regarding partners, employees and former partners and employees of the present and former Auditors.
- (l) The Committee shall review with Quarterhill's legal counsel, on no less than an annual basis, any legal matter that could have a material impact on Quarterhill's financial statements and any enquiries received from regulators or government agencies.
- (m) The Committee shall assess, on an annual basis, the adequacy of this Charter and the performance of the Committee.

5. Chairperson

The Board shall also appoint annually a Chairperson of the Committee from among the Members. The Chairperson's primary role is to ensure that the Committee functions properly, meets its obligations and responsibilities, fulfills its purpose and that its organization and mechanisms are in place and are working effectively. Specifically, the Chairperson shall:

- (a) chair meetings of the Committee;
- (b) in consultation with the Chairperson of the Board, the Members, the CEO and such other Quarterhill executives as deemed necessary, set the agenda for the meetings of the Committee;
- (c) in collaboration with the Chairperson of the Board, the CEO and Quarterhill's Corporate Secretary, ensure that agenda items for all Committee meetings are ready for presentation and that adequate information is distributed to Members in advance of such meetings in order that Members may properly inform themselves on matters to be acted upon;
- (d) assign work to Members;
- (e) act as liaison and maintain communication with the Chairperson of the Board and the Board to optimize and co-ordinate input from directors and to optimize the effectiveness of the Committee; and
- (f) provide leadership to the Committee with respect to its functions as described in the Committee's Charter and as otherwise may be appropriate.