QUARTERHILL INC.

2022 Annual Report

QUARTERHILL

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Quarterhill Inc.

Management's Discussion and Analysis
For the three months and year ended December 31, 2022 and 2021
March 21, 2023

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INTRODUCTION

This Management's Discussion and Analysis of Quarterhill Inc. (this "MD&A") is dated March 21, 2023. References in this MD&A to "Quarterhill", "the Company", "we", "us" and "our" refer to Quarterhill Inc. and its consolidated subsidiaries during the periods presented, unless the context requires otherwise. References to "Common Shares" in this MD&A refer to common shares in the capital of Quarterhill. References to "Convertible Debentures" in this MD&A refer to Quarterhill's 6.0% Convertible Unsecured Subordinated Debentures due October 30, 2026.

The Common Shares and Convertible Debentures are listed under the symbols "QTRH" and "QTRH.DB" respectively on the Toronto Stock Exchange (the "TSX") and the Common Shares are listed on the United States OTCQX Best Market (the "OTCQX") under the symbol "QTRHF".

Quarterhill is a growth-oriented Canadian company operating in the intelligent transportation system ("ITS") and intellectual property licensing industries. We are a global leader in ITS that acquires and manages attractive technology companies in the intelligent transportation systems industry and its adjacent markets.

We seek out acquisition opportunities in the ITS industry 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.

This MD&A provides information for the three months and year ended December 31, 2022 and up to and including March 21, 2023. This MD&A should be read in conjunction with Quarterhill's consolidated financial statements ("financial statements") and the notes thereto for the year ended December 31, 2022, which have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

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

This MD&A has been prepared with reference to National Instrument 51-102 - Continuous Disclosure Obligations of the Canadian Securities Administrators. Additional information filed by us with the Canadian Securities Administrators, including quarterly reports, annual reports and our Annual Information Form for the years ended December 31, 2022 and 2021 (our "AIF"), is available online at www.sedar.com and also on our website at www.Quarterhill.com.

Quarterhill and our operating subsidiaries operate in ever-changing business and competitive economic environments that expose us to a number of risks and uncertainties, many of which are discussed under the heading "Risks and Uncertainties" in this MD&A and/or under the heading "Risk Factors" in each of our AIF and the October 22, 2021 supplement to our October 19, 2021 short form base shelf prospectus (the "Prospectus Supplement"). A copy of the Prospectus Supplement is available online at www.sedar.com.

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

FISCAL YEAR 2022 HIGHLIGHTS

Business Performance and Future Business Developments

Revenues for the three months and year ended December 31, 2022 were $50,873 and $305,690 compared to $51,161 and $125,695 in the comparative prior year periods, respectively. The growth in revenue is primarily driven by acquisition related growth and a significantly large licensing agreement.

During the year, our ITS segment, through our wholly owned subsidiaries, announced that they have won new long-term customer contracts worth approximately $218 million in lifetime contract value to provide a variety of ITS products, solutions and services to several US government agencies. The initial term of these contracts currently range from two to five years with renewal options to extend services.

Our Licensing segment's revenues for the three months and year ended December 31, 2022 were $10,731 and $146,356 compared to $4,708 and $25,722 in the comparative prior year periods, respectively. The change in year over year growth is due to a significantly large licensing agreement being closed in the current year.

Please refer to the Segmented Results section of this MD&A for further details of the financial performance of our ITS and Licensing segments for the three months and year ended December 31, 2022.

Strategic Review of WiLAN

The Company is currently continuing its strategic review of its Wi-LAN Inc. subsidiary ("WiLAN") and has hired Stout as its financial advisor. Stout's IP industry expertise includes structuring numerous IP transactions between technology and licensing companies such as WiLAN as well as the strategic review of licensing programs and large patent portfolio transactions for leading technology companies. Strategic alternatives to be considered may include changes to the corporate structure of WiLAN, the acquisition or disposition of assets, a going private transaction, joint ventures, the sale of WiLAN and alternative operating models, among other potential alternatives. There can be no assurance that this strategic review process will result in the completion of any transaction or other alternative.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

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

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

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

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

NON-IFRS FINANCIAL MEASURES AND NON-IFRS RATIOS

Non-IFRS Financial Measures and Non-IFRS Ratios

Quarterhill uses both IFRS and certain non-IFRS financial measures to assess performance. Non-IFRS financial measures are financial measures disclosed by a company that (a) depict historical or expected future financial performance, financial position or cash flow of a company, (b) with respect to their composition, exclude amounts that are included in, or include amounts that are excluded from the composition of the most directly comparable financial measure disclosed in the primary financial statements of the company, (c) are not disclosed in the financial statements of the company and (d) are not a ratio, fraction, percentage or similar representation. Non-IFRS ratios are financial measures disclosed by a company that are in the form of a ratio, fraction, percentage or similar representation that has a non-IFRS financial measure as one or more of its components, and that are not disclosed in the financial statements of the Company.

These non-IFRS financial measures and non-IFRS ratios are not standardized financial measures under IFRS, and, therefore, are unlikely to be comparable to similar financial measures presented by other companies. Management believes these non-IFRS financial measures and non-IFRS ratios provide transparent and useful supplemental information to help investors evaluate our financial performance, financial condition, and liquidity using the same measures as management. These non-IFRS financial measures and non-IFRS ratios should not be considered as a substitute for, or superior to, measures of financial performance prepared in accordance with IFRS.

Adjusted EBITDA - Non-IFRS Financial Measures

In this MD&A, we use the non-IFRS financial measure "Adjusted EBITDA" to mean net (loss) income adjusted for (i) income taxes, (ii) finance expense or income; (iii) amortization and impairment of intangibles; (iv) other charges and other on-time items; (v) depreciation of right-of-use assets and property, plant and equipment; (vi) stock-based compensation; (vii) foreign exchange (gain) loss; (viii) other income which includes equity in earnings from joint ventures; and (ix) dividends received from joint ventures. Adjusted EBITDA is used by our management to assess our normalized cash generated on a consolidated basis and in our operating segments. Adjusted EBITDA is also a performance measure that may be used by investors to analyze the cash generated by Quarterhill and our operating segments. Adjusted EBITDA should not be interpreted as an alternative to net loss and cash flows from operations as determined in accordance with IFRS or as a measure of liquidity. The most directly comparable IFRS financial measure is Net (loss) income. See the Reconciliation of Net (Loss) Income to Adjusted EBITDA within the Overall Performance section of this MD&A.

Adjusted EBITDA per share – Non-IFRS ratio

Adjusted EBITDA per share is calculated as Adjusted EBITDA divided by the basic weighted average of Common Shares. Adjusted EBITDA per share is used by our management and investors to analyze cash generated by Quarterhill on a per share basis. The most comparable IFRS measure is earnings per share.

Supplementary Financial Measures

Supplementary financial measures are financial measures disclosed by a company that (a) are, or are intended to be, disclosed on a periodic basis to depict the historical or expected future financial performance, financial position or cash flow of a company (b) are not disclosed in the financial statements of the company, (c) are not non-IFRS financial measures, and (d) are not non-IFRS ratios.

Key supplementary measures disclosed in this MD&A are as follows:

Gross margin %

Calculated as gross profit as a percentage of revenue.

Working capital

Calculated as total current assets minus total current liabilities.

DESCRIPTION OF OUR BUSINESS

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

Strategy

We are focusing our business on 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 in the ITS industry 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 if we increase the share of our revenue derived from recurring sources we will also increase the predictability of our revenues and cash flows. This will allow us to better scale our operations to ensure we meet our strategic mandate of operating profitably regardless of the prevailing economic market conditions as we grow both organically and through acquisitions. In appropriate circumstances, we may also divest certain assets if favourable conditions for such a divestiture are presented.

Our existing businesses are fully described in more detail in our AIF. We operate in two business segments as we currently review our operating results, assess our performance, make decisions about resources and generate discrete financial information for each of these segments. We have called these segments ITS and Licensing.

Intelligent Transportation Systems Segment

Our businesses are focused on enhancing safety, mobility, efficiency and environment performance across road and rail transportation infrastructure by providing intelligent transportation systems, products, solutions and services. Based on market research, we believe the global ITS industry is expected to exceed US$90 billion by 2025, influenced by major driving factors such as infrastructure spending, public safety, traffic congestion, smart city development and environmental impact. We believe that we are well positioned to capitalize on these trends.

Our businesses are leading providers of essential ITS products, solutions and services with more than 60 years of combined experience in areas such as commercial vehicle enforcement and tolling. Our customers include government transportation and tolling agencies, traffic engineering operators and industrial, mining and transportation service companies worldwide.

We have predictable and recurring revenue streams derived from selling ITS systems, products and solutions through long-term customer relationships and renewable service contracts. Our businesses offer a portfolio of integrated hardware and software to detect, measure and analyze a variety of transportation metrics which produces a valuable source of analytics and telematics for users. With a variety of product and service offerings throughout our operations in North America, Europe and Latin America, we believe there is an abundance of opportunity to create scale and efficiencies.

Licensing Segment

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

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 memory interface technologies, semiconductor manufacturing and packaging technologies, 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 based on fixed-prices 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 different rates and other terms appropriate. 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 against appropriate infringers with the ultimate goal of signing license agreements.

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

BUSINESS COMBINATIONS

We remain focused on building robust cash flows and controlling expenses throughout all our businesses to maintain a healthy and sustainable balance sheet capable of supporting both our organic and acquisitive growth strategies. With a strong balance sheet, the securitization of funds through debt financing and issuing convertible debentures along with the contribution of our business units, we are well positioned to execute our M&A growth strategy and we are actively pursuing targets in the ITS industry that are synergistic and accretive to Quarterhill.

On January 5, 2021, we acquired all of the issued and outstanding shares of Sensor Line – Gesellschaft für Optoelektronische Sensoren mbH (“Sensor Line”), a German ITS provider of fiber optic traffic sensors for road and rail markets for cash consideration of $5,933 (€3,800). Sensor Line has been integrated into IRD.

On April 28, 2021, we acquired all of the issued and outstanding shares of VDS Verkehrstechnik GmbH (“VDS”), a German ITS provider of high precision traffic monitoring devices for cash consideration of $2,780 (€1,837). VDS has been integrated into IRD.

On September 1, 2021, we completed the acquisition of ETC by acquiring all of the issued and outstanding shares of its parent holding companies for cash consideration of $151,313 (US$120,023). ETC provides tolling and mobility systems to tolling authorities across the United States. The purchase price and acquisition costs were financed by the Company’s cash reserves and by newly established syndicated credit facilities.

OVERALL PERFORMANCE

Consolidated Statements of (Loss) Income

	Three months ended December 31,		Year ended December 31,	
	2022	2021	**2022**	2021
Revenues				
Licensing	**$10,731**	$4,708	**$146,356**	$25,722
Intelligent Transportation Systems	**40,142**	46,453	**159,334**	99,973
	50,873	51,161	**305,690**	125,695
Direct cost of revenues				
Licensing	**10,160**	5,768	**66,629**	21,809
Intelligent Transportation Systems	**29,976**	33,318	**121,525**	66,451
	40,136	39,086	**188,154**	88,260
Gross profit	**10,737**	12,075	**117,536**	37,435
Operating expenses				
Depreciation of right-of-use assets	**801**	567	**2,535**	1,568
Depreciation of property, plant and equipment	**649**	771	**2,268**	1,583
Amortization of intangible assets	**6,248**	6,234	**24,809**	20,228
Selling, general and administrative expenses	**13,398**	11,097	**53,515**	33,339
Research and development expenses	**586**	671	**2,539**	2,372
Other charges	**4,285**	2,085	**20,893**	6,133
	25,967	21,425	**106,559**	65,223
Results from operations	**(15,230)**	(9,350)	**10,977**	(27,788)
Finance income	**(412)**	(54)	**(1,083)**	(164)
Finance expense	**2,639**	1,804	**10,024**	2,328
Foreign exchange gain	**(883)**	(561)	**(2,689)**	(1,216)
Other income	**333**	(160)	**(9,094)**	(2,007)
(Loss) income before taxes	**(16,907)**	(10,379)	**13,819**	(26,729)
Current income tax expense	**(298)**	262	**1,171**	1,306
Deferred income tax expense (recovery)	**3,480**	(1,124)	**9,882**	(5,852)
Income tax expense (recovery)	**3,182**	(862)	**11,053**	(4,546)
Net (loss) income	**(20,089)**	(9,517)	**2,766**	(22,183)
Other comprehensive loss that may be reclassified subsequently to net (loss) income:				
Foreign currency translation adjustment	**(1,451)**	(1,030)	**16,313**	(3,437)
Comprehensive (loss) income	**($21,540)**	($10,547)	**$19,079**	($25,620)
(Loss) income per share - Basic	**($0.18)**	($0.08)	**$0.02**	($0.19)
(Loss) income per share - Diluted	**($0.18)**	($0.08)	**$0.02**	($0.19)

The components of our revenue are as noted below:

Intelligent Transportation Systems	ITS revenues include revenues earned on contracted projects, generally recognized on a percentage of completion basis, service and maintenance contracts, hardware and software system implementations and proprietary and OEM products sales.
Licensing	Licensing revenues includes all revenues associated with technology licenses, perpetual software licenses and other revenues characterized as one-time licenses.

Consolidated revenues for the three months and year ended December 31, 2022 were $50,873 and $305,690 compared to $51,161 and $125,695 in the comparative prior year periods, respectively. The primary reason for the increase in consolidated revenue was due to the size and timing of completion of licensing agreements in the first quarter, as well as acquisitions that were not present in the entire prior year periods. Licensing revenues for the three months and year ended December 31, 2022 were $10,731 and $146,356, compared to $4,708 and $25,722 in the comparative prior year periods, respectively. Licensing revenues are generally one-time in nature which can result in significant fluctuations in revenue, gross profit and Adjusted EBITDA when the volume or dollar value of licenses changes from one period to the next. For the three months and year ended December 31, 2022 our ITS revenues were $40,142 and $159,334 compared to $46,453 and $99,973 in the comparative prior year periods, respectively. The increase in revenue for the year ended December 31, 2022 was a result of the expansion of our ITS segment with the addition of VDS Verkehrstechnik GmbH ("VDS") in April 2021 and ETC in September 2021.

Gross profit, calculated as revenues less direct cost of revenues for the three months and year ended December 31, 2022 was $10,737, or 21% and $117,536, or 38% (please refer to the Supplementary Financial Measures section of this MD&A), compared to $12,075, or 24%, and $37,435, or 30%, for the comparative prior year periods, respectively. For the current quarter, our Licensing segment generated $571 in gross profit compared to $(1,060) in the comparative prior year period. The increase in gross profit for the three months ended December 31, 2022 compared to the prior year period is due to the closing of slightly larger contracts in the current period. For year ended December 31, 2022, Licensing gross margin was significantly higher due to the closing of one significant agreement in the current year. For three months and year ended December 31, 2022, our ITS segment generated $10,166 and $37,809 in gross margin as compared to $13,135 and $33,503 in the comparative prior year periods, respectively. The decrease in the three months ended December 31, 2022 is primarily due to the number of projects currently in the implementation phases, which historically have lower margins. The increase for the year ended December 31, 2022 is primarily due to the acquisitions of VDS and ETC being encompassed by a full year of financial results. Margins can vary depending on the particular projects underway and level of product sales delivered in a particular period.

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

Consolidated operating expenses are comprised of depreciation, amortization of intangible assets, selling, general and administrative costs, research and development costs ("R&D") and other charges. Total operating expenses for the three months and year ended December 31, 2022 were $25,967 and $106,559, compared to $21,425 and $65,223 in the comparative prior year periods, respectively. The increase in operating expenses in the three months ended December 31, 2022 was primarily driven by cost reduction initiatives leading to one-time charges. The increase in operating expenses for the year ended December 31, 2022 was primarily driven by the acquisitions of VDS and ETC.

Selling, general and administrative costs are primarily comprised of management, sales and administrative personnel costs, sales and marketing expenses, occupancy costs, and professional advisory and regulatory fees. R&D costs are primarily composed of salary and materials costs associated with our various R&D activities, net of government grants and investment tax credits. Selling, general and administrative and R&D expenses for the three months and year ended December 31, 2022 was $13,984 and $56,054 compared to $11,768 and $35,711 for the comparative prior year periods, respectively. The variance is primarily attributable to the additional costs from the acquisitions.

Reconciliation of Net (Loss) Income to Adjusted EBITDA

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

We reported Adjusted EBITDA of $(2,340) and $64,647 for the three months and year ended December 31, 2022, compared to $878 and $5,027 for the comparative prior year periods. The decrease in Adjusted EBITDA for the three months ended December 31, 2022, compared to the prior year period is due to the changes in revenue and direct costs of revenue in both of our segments as previously explained. The increase in Adjusted EBITDA for the year ended December 31, 2022 was primarily driven by a significant licensing agreement closed in our licensing segment in the current year. With the creation of Quarterhill and the adoption of a growth oriented strategy anchored in acquisitions of technology businesses in 2017, we began tracking expenses related to the acquisitions. Other charges generally consist of advisor fees, accounting and valuation fees, due diligence related expenses and legal fees, restructuring charges, and other one-time items. Although these expenses may recur as we complete additional acquisitions, they are not fundamental to the actual operations of our businesses and, therefore, have been excluded in the calculation of Adjusted EBITDA. The remaining adjustments relate to finance income or expense, depreciation and amortization, impairment loss on intangibles, non-cash stock-based compensation, equity earnings and dividends received from joint venture, other acquisition related accounting items and other one-time charges.

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

Reconciliation of Net (Loss) Income to Adjusted EBITDA

	Three months ended December 31,			
	2022		2021	
	$	**Per Share**	$	Per Share
Net (loss) income from continuing operations	**($20,089)**	**($0.18)**	($9,517)	($0.08)
Adjusted for:				
Income tax expense (recovery)	**3,182**	**0.03**	(862)	(0.01)
Foreign exchange (gain) loss	**(883)**	**(0.01)**	(561)	-
Finance expense, net	**2,227**	**0.02**	1,750	0.02
Other charges	**4,285**	**0.04**	2,085	0.02
Depreciation and amortization	**7,698**	**0.07**	7,572	0.05
Stock based compensation expense	**335**	**-**	571	0.01
Dividends received from joint venture	**572**	**0.01**	-	-
Other income	**333**	**-**	(160)	-
Adjusted EBITDA[1]	**($2,340)**	**($0.02)**	$878	$0.01
Weighted average number of Common Shares				
Basic	**114,639,700**		113,834,597	

	Year ended December 31,			
	2022		2021	
	$	**Per Share**	$	Per Share
Net (loss) income from continuing operations	**$2,766**	**$0.02**	($22,183)	($0.19)
Adjusted for:				
Income tax expense (recovery)	**11,053**	**0.10**	(4,546)	(0.04)
Foreign exchange (gain) loss	**(2,689)**	**(0.02)**	(1,216)	(0.01)
Finance expense, net	**8,941**	**0.08**	2,164	0.02
Other charges	**20,893**	**0.18**	6,133	0.05
Depreciation and amortization	**29,612**	**0.26**	23,379	0.20
Stock based compensation expense	**1,875**	**0.02**	1,955	0.02
Dividends received from joint venture	**1,290**	**0.01**	1,348	0.01
Other income	**(9,094)**	**(0.08)**	(2,007)	(0.02)
Adjusted EBITDA[1]	**$64,647**	**$0.57**	$5,027	$0.04
Weighted average number of Common Shares				
Basic	**114,389,608**		114,013,610	

[1] Refer to Adjusted EBITDA - Non-IFRS Financial Measures

[2] Refer to Adjusted EBITDA per share – Non-IFRS ratios

SEGMENTED RESULTS

Segmented results of operations for the three months and year ended December 31, 2022 and 2021 are included in this MD&A.

	Three months ended December 31, 2022			
	Licensing	**Intelligent Transportation Systems**	**Corporate**	**Total**
Revenues	**$10,731**	**$40,142**	**$ -**	**$50,873**
Direct cost of revenues	**10,160**	**29,976**	**-**	**40,136**
Gross profit	**571**	**10,166**	**-**	**10,737**
Depreciation and amortization	**3,474**	**4,178**	**46**	**7,698**
Selling, general and administrative expenses	**1,471**	**9,443**	**2,484**	**13,398**
Research and development expenses	**-**	**586**	**-**	**586**
Other charges	**-**	**4,036**	**249**	**4,285**
Results from operations	**(4,374)**	**(8,077)**	**(2,779)**	**(15,230)**
Finance expense, net	**(219)**	**760**	**1,686**	**2,227**
Foreign exchange (gain) loss	**(736)**	**(1,005)**	**858**	**(883)**
Other expense (income)	**-**	**733**	**(400)**	**333**
Loss before taxes	**(3,419)**	**(8,565)**	**(4,923)**	**(16,907)**
Income tax (recovery) expense	**(2,275)**	**5,302**	**155**	**3,182**
Net loss	**($1,144)**	**($13,867)**	**($5,078)**	**($20,089)**

	Three months ended December 31, 2021			
	Licensing	Intelligent Transportation Systems	Corporate	Total
Revenues	$4,708	$46,453	$ -	$51,161
Direct cost of revenues	5,768	33,318	-	39,086
Gross profit	(1,060)	13,135	-	12,075
Depreciation and amortization	3,232	4,296	44	7,572
Selling, general and administrative expenses	568	8,599	1,930	11,097
Research and development expenses	-	671	-	671
Other charges	-	(104)	2,189	2,085
Results from operations	(4,860)	(327)	(4,163)	(9,350)
Finance expense, net	63	757	930	1,750
Foreign exchange gain	(37)	(232)	(292)	(561)
Other (income) expense	-	(189)	29	(160)
Loss before taxes	(4,886)	(663)	(4,830)	(10,379)
Income tax (recovery) expense	(1,984)	247	875	(862)
Net loss	($2,902)	($910)	($5,705)	($9,517)

	Year ended December 31, 2022			
	Licensing	**Intelligent Transportation Systems**	**Corporate**	**Total**
Revenues	**$146,356**	**$159,334**	**$ -**	**$305,690**
Direct cost of revenues	**66,629**	**121,525**	**-**	**188,154**
Gross profit	**79,727**	**37,809**	**-**	**117,536**
Depreciation and amortization	**13,431**	**16,000**	**181**	**29,612**
Selling, general and administrative expenses	**4,899**	**38,396**	**10,220**	**53,515**
Research and development expenses	**-**	**2,539**	**-**	**2,539**
Other charges	**601**	**4,038**	**16,254**	**20,893**
Results from operations	**60,796**	**(23,164)**	**(26,655)**	**10,977**
Finance expense, net	**(432)**	**3,307**	**6,066**	**8,941**
Foreign exchange loss (gain)	**127**	**(357)**	**(2,459)**	**(2,689)**
Other income	**-**	**(706)**	**(8,388)**	**(9,094)**
Income (loss) before taxes	**61,101**	**(25,408)**	**(21,874)**	**13,819**
Income tax expense	**4,184**	**1,658**	**5,211**	**11,053**
Net income (loss)	**$56,917**	**($27,066)**	**($27,085)**	**$2,766**

	Year ended December 31, 2021			
	Licensing	Intelligent Transportation Systems	Corporate	Total
Revenues	$25,722	$99,973	$ -	$125,695
Direct cost of revenues	21,809	66,451	-	88,260
Gross profit	3,913	33,522	-	37,435
Depreciation and amortization	12,550	10,629	200	23,379
Selling, general and administrative expenses	3,544	20,237	9,558	33,339
Research and development expenses	-	2,372	-	2,372
Other charges	-	3,630	2,503	6,133
Results from operations	(12,181)	(3,346)	(12,261)	(27,788)
Finance expense, net	118	1,151	895	2,164
Foreign exchange gain	(119)	(692)	(405)	(1,216)
Other (income) expense	-	(2,039)	32	(2,007)
Loss before taxes	(12,180)	(1,766)	(12,783)	(26,729)
Income tax (recovery) expense	(4,971)	(885)	1,310	(4,546)
Net loss	($7,209)	($881)	($14,093)	($22,183)

Intelligent Transportation Systems

	Three months ended December 31,		Year ended December 31,	
	2022	2021	**2022**	**2021**
Revenues	**$40,142**	$46,453	**$159,334**	$99,973
Direct cost of revenues	**29,976**	33,318	**121,525**	66,470
Gross profit	**10,166**	13,135	**37,809**	33,503
Depreciation and amortization	**4,178**	4,296	**16,000**	10,629
Selling, general and administrative expenses	**9,443**	8,599	**38,396**	20,218
Research and development expenses	**586**	671	**2,539**	2,372
Other charges	**4,036**	(104)	**4,038**	3,629
Results from operations	**(8,077)**	(327)	**(23,164)**	(3,345)
Finance expense, net	**760**	757	**3,307**	1,151
Foreign exchange gain	**(1,005)**	(232)	**(357)**	(692)
Other expense (income)	**733**	(189)	**(706)**	(2,039)
Loss before taxes	**(8,565)**	(663)	**(25,408)**	(1,765)
Current income tax (recovery) expense	**(713)**	260	**276**	754
Deferred income tax expense (recovery)	**6,015**	(13)	**1,382**	(1,639)
Income tax expense	**5,302**	247	**1,658**	(885)
Net loss	**($13,867)**	($910)	**($27,066)**	($880)
Adjusted EBITDA	**$777**	$4,074	**($1,300)**	$12,657
Other reconciling Iitems				
Stock based compensation expense	**68**	209	**536**	396
Dividend from joint venture	**572**	-	**1,290**	1,348

The ITS segment’s revenues for the three months and year ended December 31, 2022 were $40,142 and $159,334 compared to $46,453 and $99,973 in the prior year comparative periods, respectively. The decrease in revenue for the three months ended December 31, 2022 was primarily driven by a lower margin project mix in our tolling revenue as a result of a larger number of projects in the implementation phase. The increase for the year ended December 31, 2022 primarily due to the expansion of our ITS segment with the acquisitions of VDS and ETC being captured throughout the full fiscal year this year as well as the subsiding of effects from project delays experienced in previous quarters and periods.

Our ITS revenue streams consist of revenues earned on contracted projects, which are generally recognized over time, product sales, hardware and software system implementations, and service and maintenance contracts. Service and maintenance projects generally range from one to five year terms but can be renewed with some contracts that could reach up to ten years or more. For project based work, revenues will routinely vary significantly depending on the timing and nature of the specific projects underway in each reporting period.

The ITS segment's gross profit as a value and as a percentage of revenues may be subject to significant variance in each reporting period due to the nature and type of contract and service work currently in process, currency volatility and competitive factors, among other things.

Total operating expenses are comprised of selling, general and administrative costs, R&D costs, depreciation, amortization of intangible assets and other charges. Total operating expenses for the three months and year ended December 31, 2022 were $18,243 and $60,973 compared to $13,462 and $36,868 in the prior year comparative periods, respectively. The increase in the three months ended December 31, 2022 is mainly attributed to the cost reduction initiatives deployed by the Company, which resulted in one-time severance and other charges. The increase in operating expenses for the year ended December 31, 2022 compared to the prior period generally reflects the addition to the operating expenses of our new acquisitions.

We are committed to continual investments in R&D to enhance our current products and advance the availability of new products within the ITS industry. For three months and year ended December 31, 2022, net R&D spending levels were approximately 1.5% and 1.6% of segment revenue, respectively. R&D expenses compared to the prior year comparative periods have remained relatively consistent.

Income tax expense for the three months and year ended December 31, 2022 were $5,302 and $1,658 compared to an expense of $247 and recovery of $885 for the comparative prior year periods. The increase in the three months and year ended December 31, 2022 was caused primarily by write-off of deferred tax assets as a result of historical operating losses.

Our ITS segment is exposed to foreign exchange risk primarily relating to its revenue, operating and capital expenditures, net assets held in foreign currencies, and embedded derivative portions of unearned revenue on certain U.S. dollar denominated sales contracts in its North America and Latin America markets. This is more fully described in the Risks and Uncertainties section.

Other income includes IRD's share of income in its joint venture, Xuzhou-PAT Control Technologies Limited ("XPCT"). XPCT has two business divisions that provide products and services to the ITS industry and construction equipment manufacturers. For the three months and year ended December 31, 2022, IRD's share of XPCT's income was $523 and $1,806 compared to $150 and $1,924 for the comparative prior year period.

Licensing

	Three months ended December 31,		Year ended December 31,	
	2022	2021	**2022**	**2021**
Revenues	**$10,731**	$4,708	**$146,356**	$25,722
Direct cost of revenues	**10,160**	5,768	**66,629**	21,809
Gross profit	**571**	(1,060)	**79,727**	3,913
Depreciation and amortization	**3,474**	3,232	**13,431**	12,550
Selling, general and administrative expenses	**1,471**	568	**4,899**	3,544
Other charges	**-**	-	**601**	-
Results from operations	**(4,374)**	(4,860)	**60,796**	(12,181)
Finance expense, net	**(219)**	63	**(432)**	118
Foreign exchange (gain) loss	**(736)**	(37)	**127**	(119)
(Loss) income before taxes	**(3,419)**	(4,886)	**61,101**	(12,180)
Current income tax expense	**415**	2	**895**	552
Deferred income tax (recovery) expense	**(2,690)**	(1,986)	**3,289**	(5,523)
Income tax (recovery) expense	**(2,275)**	(1,984)	**4,184**	(4,971)
Net (loss) income	**($1,144)**	($2,902)	**$56,917**	($7,209)
Adjusted EBITDA	**($849)**	($1,545)	**$75,114**	$1,159
Other reconciling items				
Stock based compensation expense	**51**	83	**286**	790

For the three months and year ended December 31, 2022, Licensing segment revenues were $10,731 and $146,356 compared to $4,708 and $25,722 in the comparative prior year periods, respectively. The increase in revenues for the three months ended December 31, 2022 is largely due to the general one-time nature of WiLAN's licenses. Accordingly, significant fluctuations in revenue, gross profit, and Adjusted EBITDA will occur when volume or dollar value of licenses change from one period to the next. The increase in revenue in the year ended December 31, 2022 was directly attributable to the closure of a significantly large licensing contract in the first quarter of 2022.

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

Direct cost of revenues for the three months and year ended December 31, 2022 were $10,160 and $66,629 compared to $5,768 and $21,809 for the prior year comparative periods, respectively. The increase in direct costs of revenues for the three months ended December 31, 2022 was primarily attributable to the timing of litigation expenses within the current period. For the year ended December 31, 2022 revenue significantly increased compared to the prior year periods resulting in a significant increase in the related contingent expenses incurred. Contingent litigation and contingent partner expenses can vary based on the arrangements negotiated with each contingent partner for each specific contract licensed in a quarter as well as the extent of licensing in a period.

Operating expenses are generally considered selling, general and administration type expenses and include all overheads for WiLAN operations in addition to depreciation and amortization expense and any loss on disposal of assets or impairment losses. For the three months and year ended December 31, 2022, operating expenses were $4,945 and $18,931 as compared to $3,800 and $16,094 in the comparative prior year period primarily driven by an increase in amortization from net additions to intangible assets and other charges as a result of non-recurring termination costs in addition to increased costs related to a significant improvement in the segment's performance on a year-over-year basis.

Income tax recovery for the three months ended December 31, 2022 was $2,275 as compared to an income tax recovery of $1,984 for the comparative prior year period. The increase was due to the nature of operating losses in comparison to the prior year quarter. For year ended December 31, 2022, income tax increased from an income tax recovery in the prior period primarily from the significant revenue and profitability increases over the same comparative period. Current income tax expenses for the reported periods consist of deferred income tax expenses and current tax expenses which consist of accrued corporate tax expenses as well as foreign taxes withheld on payments received from licensees in foreign tax jurisdictions for which there is no treaty relief.

SELECTED CONSOLIDATED ANNUAL AND QUARTERLY RESULTS

Selected Annual Results

	Year ended December 31,		
(in thousands of Canadian dollars, except per share amounts)	**2022**	2021	2020
Revenue	**$305,690**	$125,695	$144,526
Net income (loss) from continuing operations	**2,766**	(22,183)	4,428
Net income from discontinued operations	**-**	-	14,255
Net income (loss)	**$2,766**	$(22,183)	$18,683
Income (loss) per share, basic	**$0.02**	$(0.19)	$0.16
Income (loss) per share, diluted	**$0.02**	$(0.19)	$0.16
Dividends declared per share	**$0.05**	$0.05	$0.05
Total assets	**$411,944**	$427,195	$309,953
Total liabilities	**$154,284**	$186,079	$38,023

In 2022, our consolidated revenue and net income saw a year-over-year increase as a direct result of a significantly large licensing agreement being entered into in the first quarter. In 2021, we completed three acquisitions, resulting in significant growth in our ITS segment, however, revenues year over year decreased as a result of the closing of significantly fewer and smaller contracts in our Licensing segment. All revenue amounts exclude discontinued operations.

Selected Quarterly Results

Quarter ended	Revenues $ 000's	Net income (loss) $ 000's	Net income (loss) per share (basic) $	Adjusted EBITDA * $ 000's	Adjusted EBITDA per share *(basic) $
December 31, 2022	50,873	(20,089)	(0.18)	(2,340)	(0.02)
September 30, 2022	42,433	(9,714)	(0.08)	(2,657)	(0.02)
June 30, 2022	43,879	(24,332)	(0.21)	(9,454)	(0.07)
March 31, 2022	168,505	56,901	0.49	79,098	0.69
December 31, 2021	51,161	(9,517)	(0.08)	878	0.01
September 30, 2021	36,343	(2,003)	(0.02)	7,576	0.06
June 30, 2021	18,875	(6,376)	(0.06)	(3,019)	(0.03)
March 31, 2021	19,316	(4,287)	(0.04)	(408)	(0.00)

* Adjusted EBITDA and the respective per share amounts are non-IFRS measures; please refer to "Non-IFRS Financial Measures and Non-IFRS Ratios" and "Reconciliation of Adjusted EBITDA" sections of this MD&A.

Historically, our operating results have fluctuated on a quarterly basis and we expect that quarterly results will continue to fluctuate in the future due to the portion of consolidated revenues derived from the general one-time nature of WiLAN's licenses as well as the fluctuation occurring in the ITS business due to varying project phases and seasonality. Operating results for interim periods should not be relied upon as an indication of the results to be expected or achieved in any future period or any fiscal year as a whole. The risk factors affecting our revenue and results, many of which are outside of our control, include those set out under the heading "Risk Factors" in each of our AIF and the Prospectus Supplement.

Total assets by segment are as follows:

As at	**December 31, 2022**	December 31, 2021
Licensing	**$87,687**	$86,468
Intelligent Transportation Systems	**279,220**	263,622
Total segment assets	**366,907**	350,090
Total corporate assets	**45,037**	77,105
Total assets	**$411,944**	$427,195

Dividends declared for the years ended December 31, 2022 and 2021 were as follows:

	2022		2021	
	Per Share	**Total**	Per Share	Total
1st quarter	**$0.0125**	**$1,408**	$0.0125	$1,432
2nd quarter	**$0.0125**	**1,432**	$0.0125	1,422
3rd quarter	**$0.0125**	**1,420**	$0.0125	1,420
4th quarter	**$0.0125**	**1,433**	$0.0125	1,415
	$0.0500	**$5,693**	$0.0500	$5,689

CAPITAL AND LIQUIDITY

The Company's capital management objectives are to maintain financial flexibility in order to pursue its strategy of organic and acquisitive growth, and, from time to time, pay dividends and, from time to time, return capital to shareholders. The Company defines our capital as cash, the aggregate of cash and cash equivalents, short-term investments, restricted short-term investments, long-term debt, convertible debentures and shareholders' equity. The Company manages its capital structure in accordance with changes in economic conditions. To maintain or adjust its capital structure, the Company may purchase Common Shares for cancellation pursuant to one or more normal course issuer bids and/or substantial issuer bids, issue new Common Shares, issue convertible debentures or raise or retire our debts.

Our cash, cash equivalents and short-term investments, exclusive of any restricted amounts, totaled $67,907 as at December 31, 2022 compared to $72,597 as at December 31, 2021, representing a decrease of $4,690 primarily due to debt repayment, legal fees and severance charges, among other working capital fluctuations. At December 31, 2022, we had sufficient working capital of $71,509 to cover short and long-term obligations. As at the date of this MD&A our cash balance was approximately $54,000, however, due to the nature of our business segment activities, operating cash flows may vary significantly between periods due to changes in working capital balances.

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

We have a revolving credit facility through Canadian Imperial Bank of Commerce available in the amount of $8,000 (or the equivalent in US dollars) for general corporate purposes and a further $2,000 for a foreign exchange facility. Canadian dollar or US dollar amounts advanced under this credit facility are payable on demand and bear interest at the bank's Canadian prime rate plus 1.0% per annum or US base rate plus 1.0% per annum as may be applicable. Borrowings under this facility are collateralized by a general security agreement over our cash and cash equivalents, receivables and present and future personal property of the Quarterhill holding company and the Licensing segment. As at and during the quarter ended December 31, 2022, we had no borrowings under this facility.

In 2021, generally to finance the ETC acquisition, we entered into a credit agreement to receive senior secured credit facilities from HSBC Bank Canada and Royal Bank of Canada consisting of a revolving credit facility in the maximum amount of $19,090 (US$15,000) and a term credit facility of $62,826 (US$50,000). These facilities replaced all existing credit facilities we had with HSBC Bank Canada. The interest rate as at December 31, 2022 was 6.91% and both facilities have a maturity date of August 31, 2026 with a general security agreement over all of the assets in North America of IRD, ETC and its parent holding company, Quarterhill USA, Inc. The carrying value of these assets as at December 31, 2022 was $261,348. As at and during the year ended December 31, 2022, we repaid $36,128 of the term loan and had no borrowings or repayments on the revolving credit facility.

The Company was not in compliance with the Fixed Charge Coverage Ratio and Senior Leverage Ratio covenants of the credit agreement as of December 31, 2022. Following year end, the credit agreement was amended to provide that the Company did meet such covenants at December 31, 2022. Because this amendment was agreed to following year-end, for financial reporting purposes under IFRS, the Company did not have the unconditional right to defer the repayment of the debt beyond twelve months and, as such, the outstanding balance is presented as a current liability as at December 31, 2022.

The Company also has incurred a revolving demand facility through WiLAN to support letters of credit and/or letters of guarantee with Royal Bank of Canada for which restricted short-term investments are held as collateral. As at December 31, 2022 a $5,669 (US$4,178) letter of credit is outstanding against the revolving demand facility.

CONTRACTUAL OBLIGATIONS

Contractual obligations relating to accounts payable and accrued liabilities, long-term debt, convertible debentures and lease liabilities as at December 31, 2022 are as follows:

	Total	Less than 1 year	2 - 3 years	4 - 5 years	Thereafter
Accounts payable and accrued liabilities	$47,063	$47,063	$ -	$ -	$ -
Long-term debt	29,292	29,292	-	-	-
Convertible debentures	57,500	-	-	57,500	-
Lease liabilities	13,919	3,007	5,512	3,715	1,685
	$147,774	$79,362	$5,512	$61,215	$1,685

OUTSTANDING COMMON SHARE DATA

We are authorized to issue an unlimited number of Common Shares, 6,351 special preferred, redeemable, retractable, non-voting shares and an unlimited number of preferred shares, issuable in series. As at December 31, 2022, there were 114,639,700 Common Shares and no special or preferred shares issued and outstanding. We also maintain the Quarterhill Inc. 2018 Equity Incentive Plan (the "Equity Plan"). Under the Equity Plan, we can issue a maximum of 9.5% of our issued and outstanding Common Shares from time to time which was, as at December 31, 2022, up to 10,890,772 Common Shares. As at December 31, 2022, we had options granted to purchase up to 8,669,951 Common Shares.

Pursuant to the Equity Plan, the Company has also granted restricted stock units ("RSUs") to certain employees in May and June 2022. Pursuant to the Equity Plan, these RSUs are settled in Common Shares issued from treasury on a one-to-one basis in six tranches, with the first tranche vested at the grant dates of May 13, 2022 and June 6, 2022 and each subsequent tranche vesting upon the Company coming out of its regular quarterly blackout for the fiscal quarters ending June 30 and December 31, in 2022, 2023 and 2024. The Company granted 196,417 RSUs on May 13, 2022, valued using the most recent TSX closing price for the Common Shares on the grant date of $2.14 for a total of $420. The Company granted 150,000 RSUs on June 6, 2022, valued using the most recent TSX closing price for the Common Shares on the grant date of $2.09 for a total of $316. For the year ended December 31, 2022, the Company has recognized $597, respectively, in stock-based compensation expense as a result.

OFF-BALANCE SHEET ARRANGEMENTS

As at December 31, 2022, IRD has an outstanding 100% guarantee to XPCT, for a loan in the amount of 15,000 yuan or $2,945 (December 31, 2021 - $3,008); however, IRD has the right to seek recourse against its joint venture partner for any amount greater than IRD's proportionate share of the liability. The amount owing represents the maximum amount available to be drawn under this facility.

RELATED PARTY TRANSACTIONS

Subsidiaries

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

Investment in Joint Venture

Investment in Joint Venture comprises a 50% interest, held by the Company's IRD subsidiary, in XPCT, an ITS products and manufacturing service provider in China. IRD had sales of $125 (2021- $150) during the year ended December 31, 2022. At December 31, 2022, XPCT had no amounts owing to IRD (2021- $1).

Key management personnel

Key management personnel are Quarterhill Inc.'s President & Chief Executive Officer, Chief Financial Officer and Senior Vice-President, General Counsel & Corporate Secretary and the Chief Executive Officers of each of ETC, IRD and WiLAN. Other related parties are close family members of the key management personnel and entities controlled by key management personnel. Key management personnel compensation expense for the year ended December 31, 2022 was $3,937 (2021- $6,020).

PROPOSED TRANSACTIONS

There are no proposed transactions.

CRITICAL ESTIMATES

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

Business combinations

Purchase prices related to business combinations are allocated to the underlying acquired assets and liabilities based on their estimated fair value at the time of acquisition. The determination of fair value requires the Company to make assumptions, estimates and judgments regarding cash flow projects, valuation techniques, economic risk, weighted average cost of capital and future events. Significant judgments, estimates and assumptions are also required by management in estimating the amount of contingent consideration payable. As a result, the purchase price allocation impacts the Company's reported assets and liabilities, including the amounts allocated to intangible assets and goodwill, and future earnings due to the impacts of amortization expense and impairment testing.

Revenue recognition

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

Asset Impairments and Impairment Reversals

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

Income taxes and deferred taxes

Quarterhill is subject to income taxes in Canada and other foreign jurisdictions. The calculation of income taxes in many cases, however, requires significant judgment in interpreting tax rules and regulations. The Company's tax filings are subject to audits which could materially change the amount of current and deferred income taxes and liabilities. Additionally, estimation of the income tax provision includes evaluating the recoverability of deferred tax assets based on the assessment of the Company's ability to use the underlying future tax deductions before they expire against future taxable income. The assessment is based on existing tax laws, estimates of future profitability and tax planning strategies. If the future taxable results of the Company differ significantly from those expected, the Company would be required to increase or decrease the carrying value of the deferred tax assets with a potentially material impact on the Company's consolidated statements of financial position and consolidated statements of comprehensive income. The carrying amount of deferred tax assets is reassessed at each reporting period and reduced to the extent that it is no longer probable that sufficient taxable income will be available to utilize all or part of the deferred tax assets. Unrecognized deferred tax assets are recognized to the extent that it is more likely than not that taxable income will be available against which deferred tax assets can be utilized.

FUTURE ACCOUNTING PRONOUNCEMENTS

Amendments to IAS 1 and IFRS Practice Statement 2 – Disclosure of Accounting Policies

In February 2021, the IASB issued amendments to IAS 1 and IFRS Practice Statement 2, "Making Materiality Judgements", in which it provides guidance and examples to help entities apply materiality judgments to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their "significant" accounting policies with a requirement to disclose their material accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments are applicable for annual reporting periods beginning on or after January 1, 2023, with early adoption permitted. Since the amendments to the IFRS Practice Statement 2 provide non-mandatory guidance on the application of the definition of material to accounting policy information, an effective date for these amendments is not necessary.

Amendments to IAS 8, Definition of Accounting Estimate – Changes to Accounting Estimates and Errors

In February 2021, the IASB issued amendments to IAS 8, in which it introduces a definition of 'accounting estimates'. The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual periods beginning on or after January 1, 2023, with early adoption permitted.

Amendments to IAS 1, Presentation of Financial Statements - Classification of Liabilities as Current or Non-Current

In January 2020 and October 2022, the IASB issued amendments to paragraphs 69 - 76 of IAS 1 to clarify the requirements for classifying liabilities as current or non-current. The amendments specify that the conditions which exist at the end of a reporting period are those which will be used to determine if a right to defer settlement of a liability exists. The amendments also clarify the situations that are considered a settlement of a liability. The amendments are effective for annual periods on or after January 1, 2024, with early adoption permitted. The amendments are to be applied retrospectively.

Management is currently assessing the impact of these amendments.

RISKS AND UNCERTAINTIES

Quarterhill and its operating subsidiaries operate in dynamic business and competitive economic environments that expose it to a number of risks and uncertainties. This MD&A is qualified in its entirety by the risk factors described under the heading "Risk Factors" in each of our AIF and Prospectus Supplement. The risks and uncertainties discussed in greater detail under the heading "Risk Factors" in our AIF are not, however, the only risks we face. We may also be subject to additional risks and uncertainties that are currently unknown or not currently deemed material to our respective business operations. If any of the risks or uncertainties we and our operating subsidiaries face were to occur, they could materially affect our future operating results and could cause actual events to differ materially from those which we expect or that we have described in our forward-looking statements.

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

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

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

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

None of the amounts outstanding have been challenged by the respective counterparties and we continue to conduct business with them on an ongoing basis.

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

Liquidity Risk

Liquidity risk is the risk that we will not be able to meet our financial obligations as they fall due. Our objective in managing liquidity risk is to ensure that we have sufficient liquidity available to meet our liabilities when due. We manage our liquidity needs through various sources including cash generated through operations, cash reserves, various revolving credit facilities, long-term debt, convertible debentures and the issuance of Common Shares.

Market Risk

Market risk is the risk that the fair value of future cash flows from our financial instruments will fluctuate due to changes in interest rates and foreign currency exchange rates.

Interest Rate Risk

The financial instruments that expose the Company to interest rate risk are its cash and cash equivalents, short-term investments, bank indebtedness and long-term debt. The Company's objectives of managing its cash and cash equivalents and short-term investments are to ensure sufficient funds are maintained on hand at all times to meet day-to-day requirements and to place any amounts that are considered in excess of day-to-day requirements on short-term deposit with the Company's banks so that they earn interest. When placing amounts of cash and cash equivalents into short-term investments, the Company only places investments with Canadian chartered banks and ensures that access to the amounts placed can be obtained on short notice. A one percent increase or decrease in interest rates would not have resulted in a material increase or decrease in interest income or expense during the year ended December 31, 2022.

Currency Risk

Portions of the Company's revenues and operating expenses are denominated in U.S. dollars, Chilean pesos, Mexican pesos, Euros and Chinese yuan. Because these financial statements are reported in Canadian dollars, the Company's operating results are subject to changes in the exchange rate of the foreign currencies (primarily U.S. dollars) relative to the Canadian dollar. For instance, a decrease in the value of the US dollar relative to the Canadian dollar has an unfavourable impact on US dollar denominated revenues and a favourable impact on U.S. dollar denominated direct cost of revenues and operating expenses. Approximately 79% of the Company's cash and cash equivalents and short-term investments are denominated in US dollars and are subject to changes in the exchange rate of the Canadian dollar relative to the U.S. dollar.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROL OVER FINANCIAL REPORTING

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

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

As of December 31, 2022, an evaluation was performed on the effectiveness of ICFR to provide reasonable assurance regarding the reliability of financial reporting and financial statement compliance with IFRS. Based on the evaluation performed at that time, the Chief Executive Officer and Chief Financial Officer concluded they were able to certify that the design and operating effectiveness of ICFR were effective.

There were no changes to our ICFR during the year ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our ICFR.

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

Quarterhill Inc.

2022 Annual Consolidated Financial Statements

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The accompanying consolidated financial statements of Quarterhill Inc. ("Quarterhill" or the "Company") are the responsibility of management and have been approved by the Board of Directors (the "Board").

The consolidated financial statements have been prepared by management in accordance with the International Financial Reporting Standards. Management is responsible for ensuring that these consolidated financial statements, which include certain amounts based on estimates and judgments, reflect the Company's business transactions and financial position in all material respects.

Quarterhill maintains systems of internal accounting and administrative controls of high quality, consistent with reasonable cost. Such systems are designed to provide reasonable assurance that the financial information is relevant, reliable and accurate, and that the Company's assets are appropriately accounted for and adequately safeguarded.

The Board is responsible for ensuring that management fulfills its responsibilities for financial reporting and is ultimately responsible for reviewing and approving the consolidated financial statements. The Board carries out this responsibility through its Audit Committee (the "Committee"). The Committee is appointed by the Board, and all of its members are independent unrelated directors.

The Committee meets periodically with management, as well as with external auditors, to discuss internal controls over the financial reporting process, auditing matters and financial reporting items, to satisfy itself that each party is properly discharging its responsibilities, the consolidated financial statements and the external auditors' report. The Committee reports its findings to the Board for consideration when approving the consolidated financial statements for issuance to the shareholders. The Committee also considers, for review by the Board and approval by the shareholders, the engagement or re-appointment of the external auditors.

The consolidated financial statements have been audited by Ernst & Young LLP, the external auditors on behalf of the shareholders. Ernst & Young LLP has full and free access to the Committee.

March 21, 2023

/s/ John Gillberry

John Gillberry
Interim Chief Executive Officer

/s/ John Karnes

John Karnes
Chief Financial Officer

Independent auditor's report

To the Shareholders of
Quarterhill Inc.

Opinion

We have audited the consolidated financial statements of **Quarterhill Inc.** and its subsidiaries [the "Company"], which comprise the consolidated statements of financial position as at December 31, 2022 and 2021, and the consolidated statements of income (loss) and comprehensive income (loss), consolidated statements of shareholders' equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as at December 31, 2022 and 2021 and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards ["IFRS"].

Basis for opinion

We conducted our audit in accordance with Canadian general accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the consolidated financial statements of the current period. These matters were addressed in the context of the audit of the consolidated financial statements as a whole, and in forming the auditor's opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

Key Audit Matter

Goodwill impairment	How our audit addressed the key audit matter
As at December 31, 2022, the Company has $56,385 thousand of goodwill as disclosed in note 13 to the consolidated financial statements. The Company performed its annual impairment analysis as at December 31, 2022 and estimated the recoverable amount for each of its group of cash generating units ["CGUs"], Intelligent Transportation Systems ("ITS") and Licensing, using a discounted cash flow model. The Company recognized no impairment during the year ended December 31, 2022. Auditing the Company's annual goodwill impairment tests was complex given the degree of judgement and subjectivity in evaluating the estimates and assumptions used to calculate the recoverable amount for each of the CGUs. Significant assumptions included revenue projections and growth rates, earnings before interest, taxes, and depreciation and amortization ("EBITDA") margins, terminal growth rates and discount rates, which are affected by expectations about future market and economic conditions.	To test the estimated recoverable amount for each of the CGUs, with the assistance of our valuation specialists, we performed the following procedures, among others: • Evaluated the Company's discounted cash flow model and valuation methodology; • Assessed the appropriateness of the Company's revenue projections and growth rates and EBITDA margins by comparing projections to actual and historical performance, and/or current industry, market and economic trends; • Evaluated the terminal growth rates by comparing assumptions to long-term inflation expectations; • Evaluated the discount rates by assessing comparable market data and considering specific risk premiums; • Performed sensitivity analysis on discount rates, revenue projections and EBITDA margins to evaluate changes in the recoverable amount of the CGUs; and • Assessed the adequacy of the Company's disclosures included in note 13 to the consolidated financial statements.

Estimate to complete for long-term fixed price contracts	How our audit addressed the key audit matter
The Company sells integrated systems with distinct performance obligations which involve the design, manufacturing, installation, maintenance and warranty of long-term projects that can span over periods beyond one year. Revenues for these fixed price contracts are recognized over time based on the progress towards completion of the contract using the percentage of completion method. This method is measured by reference to costs incurred relative to the total estimated costs. The Company's policy for revenue recognition together with the related significant accounting estimates and assumptions is described in note 2 of the consolidated financial statements. For the year ended December 31, 2022, the Company recorded $140,034 thousand of revenue recognized over time. We determined that revenue recognition for open contracts for the Company is a matter of significance to the audit due to the significant judgement made by management in determining the estimated costs to complete for long-term fixed priced contracts and, where applicable, the estimation of any loss on a project. Assessing the appropriateness of the remaining costs to complete for each project is subjective and requires significant auditor judgement	To test the estimate to complete we performed the following procedures, amongst others, for a sample of open, long-term fixed price contracts as at December 31, 2022: • Inspected contractual arrangements including pricing and billing terms, change orders and terms and conditions impacting revenue recognition; • Inquired and evaluated the consistency of responses obtained from operational and finance personnel regarding risks and uncertainties with respect to fixed price contracts, as well as the nature of the work yet to be completed and estimated costs to complete such work; • Compared estimated costs to complete, on a sample basis, to vendor quotes, purchase orders, contractual labour rates, or actual costs for similar completed projects; • Performed a look back analysis comparing the current gross margin for projects to the initial gross margin and/or to other similar completed projects; and • Considered subsequent events after December 31, 2022 to corroborate estimates made.

Other information

Management is responsible for the other information. The other information comprises:

- Management's Discussion and Analysis

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information, and in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

We obtained Management's Discussion and Analysis prior to the date of this auditor's report. If, based on the work we have performed, we conclude that there is material misstatement of this other information, we are required to report that fact in this auditor's report. We have nothing to report in this regard.

Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Canadian general accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Kwan-Ho Song.

Ernst + Young LLP

Chartered Professional Accountants
Licensed Public Accountants

Toronto, Canada
March 21, 2023

Consolidated Statements of Income (Loss) and Comprehensive Income (Loss)

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

	Note	Year ended December 31, 2022	2021
Revenues	6, 21		
Licensing		**$146,356**	$25,722
Intelligent Transportation Systems		**159,334**	99,973
		305,690	125,695
Direct cost of revenues	22		
Licensing		**66,629**	21,809
Intelligent Transportation Systems		**121,525**	66,451
		188,154	88,260
Gross profit		**117,536**	37,435
Operating expenses	22		
Depreciation of right-of-use assets	8	**2,535**	1,568
Depreciation of property, plant and equipment	9	**2,268**	1,583
Amortization of intangible assets	10	**24,809**	20,228
Selling, general and administrative expenses		**53,515**	33,339
Research and development expenses		**2,539**	2,372
Other charges	19	**20,893**	6,133
		106,559	65,223
Results from operations		**10,977**	(27,788)
Finance income		**(1,083)**	(164)
Finance expense		**10,024**	2,328
Foreign exchange gain		**(2,689)**	(1,216)
Other income		**(9,094)**	(2,007)
Income (loss) before taxes		**13,819**	(26,729)
Current income tax expense	23	**1,171**	1,306
Deferred income tax expense (recovery)	23	**9,882**	(5,852)
Income tax expense (recovery)		**11,053**	(4,546)
Net income (loss)		**2,766**	(22,183)
Other comprehensive income (loss) that may be reclassified subsequently to net income (loss):			
Foreign currency translation adjustment		**16,313**	(3,437)
Comprehensive income (loss)		**$19,079**	($25,620)
Income (loss) per share - Basic	20	**$0.02**	($0.19)
Income (loss) per share - Diluted	20	**$0.02**	($0.19)

See accompanying notes to these consolidated financial statements.

Consolidated Statements of Financial Position

(in thousands and in Canadian dollars)

As at	Note	**December 31, 2022**	December 31, 2021
Current assets			
Cash and cash equivalents		**$66,357**	$70,746
Short-term investments		**1,550**	1,851
Restricted short-term investments		**6,529**	3,095
Accounts receivable, net	24	**23,277**	30,176
Unbilled revenue	6	**41,423**	35,926
Income taxes receivable		**340**	385
Inventories (net of obsolescence)	7	**13,671**	13,731
Prepaid expenses and deposits		**6,852**	5,192
		159,999	161,102
Non-current assets			
Accounts and other long-term receivables	24	**539**	505
Long-term prepaid expenses and deposits		**1,705**	945
Right-of-use assets, net	8	**10,312**	7,761
Property, plant and equipment, net	9	**6,926**	5,694
Intangible assets, net	10	**141,335**	151,355
Investment in joint venture	11	**7,751**	7,458
Deferred compensation asset	12	**1,344**	1,524
Deferred income tax assets	23	**25,648**	37,786
Goodwill	13	**56,385**	53,065
		251,945	266,093
TOTAL ASSETS		**$411,944**	$427,195
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	14	**$47,063**	$42,008
Income taxes payable		**982**	700
Current portion of lease liabilities	8	**2,611**	2,166
Current portion of deferred revenue	6	**8,542**	7,989
Current portion of long-term debt	15	**29,292**	3,181
		88,490	56,044
Non-current liabilities			
Deferred revenue	6	**2,744**	2,839
Long-term lease liabilities	8	**9,655**	5,626
Long-term debt	15	**-**	58,968
Convertible debentures	16	**48,379**	45,959
Derivative liability	16	**1,786**	9,441
Deferred compensation liabilities	12	**1,169**	1,350
Deferred income tax liabilities	23	**2,061**	5,852
		65,794	130,035
TOTAL LIABILITIES		**154,284**	186,079
Shareholders' equity			
Capital stock		**546,482**	544,345
Contributed surplus		**50,958**	49,937
Accumulated other comprehensive income		**16,457**	144
Deficit		**(356,237)**	(353,310)
		257,660	241,116
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY		**$411,944**	$427,195

See accompanying notes to these consolidated financial statements.

On behalf of the Board of Directors:

/s/ Roxanne Anderson	*/s/ Pamela Steer*
Roxanne Anderson	Pamela Steer
Chair, Audit Committee	Director

(in thousands and in Canadian dollars)

	Note	Year ended December 31, 2022	2021
Cash generated from (used in) operating activities			
Net income (loss)		**$2,766**	($22,183)
Add (deduct) non-cash items:			
Stock-based compensation expense		**1,875**	1,955
Depreciation of right-of-use assets	8	**2,535**	1,568
Depreciation and amortization		**27,077**	21,811
Foreign exchange gain		**(2,689)**	(1,216)
Other income, net of change in derivative liability fair value		**(1,540)**	(1,924)
Loss (gain) on disposal of assets		**101**	(77)
Deferred income tax expense (recovery)		**9,882**	(5,852)
Embedded derivatives		**657**	54
Change in fair value of derivative liability	16	**(7,655)**	(92)
Non-cash interest expense		**2,412**	-
Net change in non-cash working capital balances	27	**4,192**	(7,384)
Cash generated from (used in) operating activities		**39,613**	(13,340)
Financing activities:			
Dividends paid		**(5,693)**	(5,648)
Advances from revolving credit facilities		**-**	12,727
Repayment of revolving credit facilities		**-**	(12,727)
Net proceeds from long-term debt	15	**-**	62,926
Proceeds from convertible debentures	16	**-**	55,024
Payment of lease liabilities	8	**(2,216)**	(1,659)
Repayment of long-term debt		**(36,128)**	(776)
Repurchase of shares for cancellation		**-**	(2,065)
Common shares issued for cash on the exercise of options		**1,149**	461
Cash (used in) generated from financing activities		**(42,888)**	108,263
Investing activities:			
Proceeds from restricted short-term investments		**3,294**	-
Proceeds from short-term investments		**301**	4,000
Purchase of restricted short-term investments		**(6,728)**	(3,025)
Proceeds from sale of property, plant and equipment		**234**	117
Purchase of property, plant and equipment		**(2,943)**	(1,149)
Acquisition of business, VDS		**-**	(2,780)
Acquisition of business, ETC		**-**	(151,168)
Dividend received from joint venture	11	**1,290**	1,348
Purchase of intangible assets		**(5,746)**	(5,434)
Cash used in investing activities		**(10,298)**	(158,091)
Foreign exchange on cash held in foreign currencies		**9,184**	(1,786)
Net decrease in cash and cash equivalents		**(4,389)**	(64,954)
Cash and cash equivalents, beginning of		**70,746**	135,700
Cash and cash equivalents, end of		**$66,357**	$70,746

See accompanying notes to these consolidated financial statements.

(in thousands and in Canadian dollars)

	Note	Capital Stock	Contributed Surplus	Accumulated Other Comprehensive Income	Deficit	Total Shareholders' Equity
Balance, January 1, 2021		$547,537	$46,250	$3,581	($325,438)	$271,930
Net loss		-	-	-	(22,183)	(22,183)
Repurchase of shares for cancellation		(4,027)	1,962	-	-	(2,065)
Other comprehensive loss		-	-	(3,437)	-	(3,437)
Stock-based compensation expense		-	1,955	-	-	1,955
Exercise of stock options		667	(206)	-	-	461
Common shares issued from restricted stock units	18	156	(12)	-	-	144
Common shares issued from performance stock units		12	(12)	-	-	-
Dividends declared	18	-	-	-	(5,689)	(5,689)
Balance, December 31, 2021		$544,345	$49,937	$144	($353,310)	$241,116
Balance, January 1, 2022		**$544,345**	**$49,937**	**$144**	**($353,310)**	**$241,116**
Net income		**-**	**-**	**-**	**2,766**	**2,766**
Other comprehensive income		**-**	**-**	**16,313**	**-**	**16,313**
Stock-based compensation expense		**-**	**1,875**	**-**	**-**	**1,875**
Exercise of stock options		**1,778**	**(629)**	**-**	**-**	**1,149**
Common shares issued from restricted stock units	**18**	**313**	**(179)**	**-**	**-**	**134**
Common shares issued from performance stock units		**46**	**(46)**	**-**	**-**	**-**
Dividends declared	**18**	**-**	**-**	**-**	**(5,693)**	**(5,693)**
Balance, December 31, 2022		**$546,482**	**$50,958**	**$16,457**	**($356,237)**	**$257,660**

See accompanying notes to these consolidated financial statements

1. NATURE OF BUSINESS

Quarterhill Inc. ("Quarterhill" or the "Company"), formerly “Wi-LAN Inc.” is a Canadian company incorporated and domiciled in Canada. The address of the Company's registered office is 25 King St. W Suite 1101, Toronto, Ontario, M5L 2A1. The Company's shares are listed under the symbol “QTRH” on the Toronto Stock Exchange (the “TSX”) and on the United States OTCQX Best Market under the symbol “QTRHF”. Quarterhill is focused on the acquisition, management and growth of companies in the intelligent transportation systems ("ITS") and innovation and licensing industries (“Licensing”), which correspond with the Company’s operating segments identified as Intelligent Transportation Systems and Licensing.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

These consolidated financial statements of the Company were prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”).

These consolidated financial statements were authorized for issue by the Board of Directors on March 21, 2023.

Basis of measurement

These consolidated financial statements have been prepared on a historical cost basis, except for certain financial instruments that are measured at fair value on a recurring basis, as explained in the accounting policies below.

Basis of consolidation

These consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. The Company also holds, through one of its subsidiaries, a 50% joint venture ownership interest in Xuzhou-PAT Control Technologies Limited (“XPCT”), which is accounted for using the equity method and includes only the Company’s net investment and equity in earnings of the joint venture. Consolidation of a subsidiary begins when the Company obtains control over the subsidiary and ceases when the Company ceases to control the subsidiary. All intercompany transactions and balances have been eliminated in these consolidated financial statements.

Functional and presentation currency

The consolidated financial statements are presented in Canadian dollars, which differs from the functional currency of the Company which is US dollars.

The Company follows the requirements as prescribed in IAS 21, "The Effects of Changes in Foreign Exchange Rates" to translate to the presentation currency. The assets and liabilities of the consolidated entity are translated to Canadian dollars at the exchange rate as at the reporting date and the income and expenses are

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

translated to Canadian dollars at the monthly average exchange rates of the reporting period. Foreign currency differences arising from the translation are recognized in other comprehensive income ("OCI"). Exchange differences on monetary items forming part of net investment of the Company in its foreign subsidiaries is recognized initially in other comprehensive income (loss) and reclassified from equity to profit or loss on disposal of the net investment in accordance with IAS 21, "The Effects of Changes in Foreign Exchange Rates".

Estimates, assumptions, and judgments

The preparation of these consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities and the disclosure of contingent assets and liabilities at the reporting date. Uncertainty about these assumptions and estimates could result in adjustments to the carrying amount of an asset or liability or the reported amount of revenues and expenses in future periods. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Business combinations

Purchase prices related to business combinations are allocated to the underlying acquired assets and liabilities based on their estimated fair value at the time of acquisition. The determination of fair value requires the Company to make assumptions, estimates and judgments regarding cash flow projects, valuation techniques, economic risk, weighted average cost of capital and future events. Significant judgments, estimates and assumptions are also required by management in estimating the amount of contingent consideration payable. As a result, the purchase price allocation impacts the Company’s reported assets and liabilities, including the amounts allocated to intangible assets and goodwill, and future earnings due to the impacts of amortization expense and impairment testing.

Revenue recognition

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

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Impairments for non-financial assets and impairment reversals

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

Income taxes

The Company is subject to income taxes in Canada and other foreign jurisdictions. The calculation of income taxes in many cases, however, requires significant judgment in interpreting tax rules and regulations. The Company's tax filings are subject to audits which could materially change the amount of current and deferred income taxes and liabilities. Additionally, estimation of the income tax provision includes evaluating the recoverability of deferred tax assets based on the assessment of the Company's ability to use the underlying future tax deductions before they expire against future taxable income. The assessment is based on existing tax laws, estimates of future profitability and tax planning strategies. If the future taxable results of the Company differ significantly from those expected, the Company would be required to increase or decrease the carrying value of the deferred tax assets with a potentially material impact on the Company's consolidated statements of financial position and consolidated statements of income and comprehensive income. The carrying amount of deferred tax assets is reassessed at each reporting period and reduced to the extent that it is no longer probable that sufficient taxable income will be available to utilize all or part of the deferred tax assets. Unrecognized deferred tax assets are recognized to the extent that it is more likely than not that taxable income will be available against which deferred tax assets can be utilized.

Business combinations

The Company uses the acquisition method of accounting for business combinations. The cost of an acquisition is measured as the consideration transferred at fair value at the acquisition date. The determination of fair values for the acquired intangible assets involves the use of discounted cash flow analyses. Any contingent consideration to be transferred by the Company is recognized at fair value at the acquisition date. The Company determines that a pre-acquisition contingency is probable in nature and estimable as of the acquisition date and records its best estimate for the contingency as part of the purchase price allocation. The Company continues to gather information and evaluates any pre-acquisition contingencies throughout the measurement period and makes adjustments as necessary to the purchase price allocation. Changes in fair value of contingent consideration outside of the measurement period are measured at fair value, with changes in fair value recognized in profit or loss. Acquisition-related costs are expensed as incurred. Any excess of the fair value of the consideration transferred over the fair value of identifiable net assets acquired, at the acquisition date, is recorded as goodwill.

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Foreign currency transactions

Monetary assets and liabilities denominated in foreign currencies are translated into the applicable functional currency of the entity at exchange rates prevailing at the consolidated statements of financial position dates. Revenue and expenses are translated at the average rate for the period. The gains and losses from foreign currency denominated transactions are included in foreign exchange gain/loss in the consolidated statements of income (loss).

Cash and cash equivalents

Cash and cash equivalents consist of cash in banks and highly liquid investments with original terms to maturity at the date of acquisition of three months or less. As at December 31, 2022, cash equivalents were $nil.

Short-term investments

Short-term investments are accounted for at amortized cost using the effective interest rate method. Short-term investments comprise guaranteed investment certificates with original maturities of one year or less at the date of investment and their carrying value approximates their fair value.

Restricted short-term investments

Restricted short-term investments are amounts held specifically as collateral for bank guarantees that the Company has entered into for security against potential procedural costs pursuant to a court order regarding patent infringement whereby the Company is the plaintiff. As at December 31, 2022, the Company had a letter of credit of $5,669 (2021- $997) outstanding against the credit facility.

Unbilled revenue

Unbilled revenue includes unbilled amounts typically resulting from sales under long-term contracts when the cost-to-cost method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer accounted for under IFRS 15, "Revenue from Contracts with Customers" ("IFRS 15"). At any given period-end, a large portion of the balance in this account represents the accumulation of labour, materials and other costs that have not been billed due to timing, whereby the accumulation of each month’s costs and earnings is administratively billed in subsequent months. Also included in the account are amounts that will become billable according to contract terms, which usually require the consideration of the passage of time, achievement of milestones or completion of the project.

Inventories

Inventories are measured at the lower of cost or net realizable value. The cost of inventories is determined on the weighted average basis. Cost comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Property, plant and equipment

Property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment losses, if any. Cost includes the purchase price and the directly attributable costs required to bring the asset to the condition necessary for the asset to be capable of operating in the manner intended by management. When components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items of property, plant and equipment and depreciated accordingly. The cost of replacing or repairing a component of an item of property, plant and equipment is recognized in the carrying amount of the item if it is probable that future economic benefits will occur and the cost can be measured reliably. The costs of routine maintenance are recognized in profit or loss as incurred. Depreciation is calculated on the straight-line basis over the estimated useful lives of the assets as follows:

Leasehold improvements	term of the lease
Computer equipment and software	3 years
Furniture and fixtures	5 years
Machinery and equipment	4-7 years
Building	20 years

The Company reviews the residual value, useful lives and depreciation methods used on an annual basis and, where revisions are required, the Company applies such changes in estimates on a prospective basis.

Intangible assets

Intangible assets consist of finite lived patents, developed software, customer relationships, non-competition agreements, trade name and backlog.

Patents include patents and patent rights (hereinafter, collectively "patents"), are purchased separately, and are carried at cost less accumulated amortization and impairments.

Developed software, customer relationships, and trade name were acquired through business acquisitions and are recognized at fair value as determined on the acquisition date less accumulated amortization and impairments. Fair value of the developed software and brand is determined based on the present value of expected future cash flows. Customer relationships represent acquired customer relationships with customers that are capable of being separated from the acquired entity and being sold, transferred, licensed, rented or exchanged. These customer relationships are initially recorded at their fair value based on the present value of expected future cash flows.

Amortization is calculated on a straight-line basis over the estimated useful lives of the intangible assets as follows:

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Patents	up to 20 years
Developed software	5-15 years
Customer relationships and backlog	7-15 years
Trade name	7-12 years
Non-competition agreements	term of agreement

The Company continually evaluates the remaining estimated useful lives of its finite intangible assets to determine whether events and circumstances warrant a revision to the remaining period of amortization and are accounted for prospectively from the date of the change.

Impairment of non-financial assets

The carrying amounts of non-financial assets, excluding inventories, deferred income tax assets and contract assets, are reviewed for impairment at each reporting date, or whenever events or changes in circumstances indicate the carrying amounts may not be recoverable. If there are indicators of impairment, a review is undertaken to determine whether the carrying amounts are in excess of their recoverable amounts. Goodwill is tested at least annually, at year-end, for impairment. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows, the cash-generating unit ("CGU"), from continuing use that are largely independent of the cash inflows of other assets or groups of assets.

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. The value in use is determined by the cash flows expected to arise from the CGU discounted using a pre-tax discount rate that reflects the current market assessments of the time value of money and asset-specific risk.

In determining fair value less costs of disposal, an appropriate valuation model is used. These calculations are corroborated by the use of valuation multiples, quoted share prices and other available fair value indicators. An impairment loss is recognized if the carrying amount of an asset or its CGU exceeds its estimated recoverable amount. Impairment losses are recognized in profit or loss. Impairment losses recognized in respect of CGUs are allocated first to reduce the carrying amount of any goodwill allocated to the CGUs, and then to reduce the carrying amount of the other assets in the CGUs.

For non-financial assets that have been previously impaired, excluding goodwill, an assessment is made at each reporting date as to whether there is any indication that previous impairment losses may no longer exist or may have decreased. If such an indication exists, the Company estimates the recoverable amount of the asset or CGU. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset’s recoverable amount since the impairment loss was recognized. The impairment loss to be reversed in the consolidated statements of income (loss) and comprehensive income (loss) is limited to the

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

recoverable amount, but not beyond the carrying amount, net of depreciation or amortization, that would have arisen if the prior impairment loss had not been recognized.

Investment in joint venture

The Company’s joint arrangement has been determined to be a joint venture based on the Company's assessment of its contractual rights and obligations. Joint ventures are accounted for using the equity method whereby the investments are initially recorded at cost. The investment is increased or decreased to reflect the Company’s proportionate share of the post-acquisition earnings or losses and equity movements of the investee, after adjustments to align the accounting policies with those of the Company. When the Company’s share of losses exceeds its interest in an equity-accounted investee, the carrying amount of that interest, including any long-term investments, is reduced to nil, and the recognition of further losses is discontinued except to the extent that the Company has an obligation or has made payments on behalf of the investee.

Deferred compensation asset and liability

The Company recognizes a deferred compensation plan that enables upper level management and executives to defer compensation until retirement. The Company funds these deferred compensation liabilities by making contributions to a trust invested in various mutual funds, presented as deferred compensation assets on the financial statements.

Goodwill

Goodwill represents the excess of the cost of an acquisition over the fair value of the Company’s share of the net identifiable assets of the acquired business at the date of acquisition. Goodwill is presented separately on the consolidated statements of financial position and is subsequently measured at cost less any accumulated impairment losses.

Revenue recognition

The Company recognizes revenue, at an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services, when control of the promised goods or services is transferred to the customer. Revenue represents the amount that the Company expects to receive for products and services in its contracts with customers, net of sales taxes. The cumulative effects of revisions to contract revenues and estimated completion costs are recorded in the accounting period in which the amounts become evident and can be reasonably estimated. These revisions can include such items as the effects of change orders and claims, warranty claims, liquidated damages or other contractual penalties and adjustments for contract closeout settlements. The Company reports revenue as either Licensing or Intelligent Transportation Systems, which corresponds with its operating segments. The following paragraphs describe the specific revenue recognition policies for each of the Company’s significant types of revenue by segment.

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Licensing segment

Right-to-use

Patent licenses are considered a promise to provide the right to use specific intellectual property to the customer. Revenue from contracts containing no sales or usage-based royalties is recognized when the patent right is effective, with the exception of certain instances where licensing rights applicable to future portfolio licenses are granted. In these arrangements, revenue on these specific rights would be recognized over the term of the applicable rights. Payment is generally either due immediately or within 30 days.

Patent license revenue earned in the Licensing segment is considered a promise to provide the right to use patented technologies, is recognized when the patent right is effective, and is generally one-time in nature, which may result in significant fluctuations in revenue, gross profit and net income or loss on a year over year basis.

Sales or usage-based royalty

Revenue from contracts containing a sales or usage-based royalty is recognized only when the associated sale or usage occurs or the performance obligation to which the royalty has been allocated has been satisfied. Customers generally report their royalty obligations one quarter in arrears and, accordingly, the Company estimates the expected royalties to be reported for an accounting period, with an adjustment for actual royalties reported in the following financial reporting period. Payment is due upon submission of the royalty report.

Intelligent Transportation Systems segment

Contracted projects

The majority of sales of integrated systems are delivered as contracted projects with contract terms of less than one year to more than five years, and the Company typically transfers control of goods or services, and satisfies performance obligations over time and therefore recognizes revenue over time as these performance obligations are satisfied. This continuous transfer of control to the customer is often supported by the customer's physical possession or legal title to the work in process, contractual clauses that provide the Company with a present right to payment for work performed to date plus a reasonable profit in the event a customer unilaterally terminates the contract for convenience, and as the customer simultaneously receives and consumes the benefits provided by the Company's performance. The Company's contract types include fixed price and time and materials contracts. The transaction price includes amounts expected to be received in exchange for the goods or services plus any contract amendments that are expected to be received. Payment terms are based on completion of milestones throughout the project life for fixed price contracts and monthly for time and materials projects.

Many of these projects have distinct performance obligations typically encompassing one or more of installation, maintenance and warranty. A contract's transaction price is allocated to each distinct performance obligation

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

using the best estimate of the standalone selling price of each distinct good or service in the contract. The primary method used to estimate standalone selling price is the expected cost plus margin approach.

Installations

Revenue for the installation obligations of fixed price contracts is recognized over time using the input method based on costs incurred relative to the total expected costs to complete each project. Control is transferred to the customer over time as the customer gains physical possession or legal title to the work in process, as well as contractual clauses that provide the Company with a present right to payment for work performed to date plus a reasonable profit in the event a customer unilaterally terminates the contract for convenience and accordingly, revenue earned from the contract is recognized over time based on the extent of progress towards completion of the performance obligation based on costs incurred relative to the total expected costs to complete each project. The Company reviews and updates the contract-related estimates regularly. Determining the contract costs and estimates to complete requires significant judgment. Adjustments are recognized in profit on contracts under the cumulative catch-up method in the period the adjustment is identified. If the Company anticipates the estimated remaining costs to completion will exceed the value allocated to the performance obligation, the resulting loss is recognized immediately.

Maintenance

The maintenance obligation of contracts with multiple performance obligations is recognized over the term of the contract as control is transferred to the customer as the customer simultaneously receives and consumes the benefits provided by the Company's performance. Stand-alone maintenance service contracts are typically time and materials, but some are fixed price, for which revenue is recognized in the same manner as fixed price installations, over time using the input method based on costs incurred relative to the total expected costs to complete each project. For time and materials contracts, labour and material rates are established within the contract. Revenues from time and materials contracts are recognized as control is transferred to the customer based on cost plus margin. These services are billed on a monthly basis and collected shortly thereafter.

Warranty

Revenue from warranty obligations is recognized over time based on time lapsed as this best represents the value transferred to the customer.

<u>Product sales</u>

Product sales revenue is recognized when control transfers under the term of the enforceable contract. Customers are billed when transfer of control occurs and payments are typically due within 30 days.

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Financial instruments

Recognition and initial measurement

Financial assets and liabilities, with the exception of accounts receivable and unbilled revenues that do not have a significant financing component, are initially recognized at fair value plus or minus directly attributable transaction costs as appropriate, except for financial assets at fair value through profit and loss ("FVTPL"), for which transaction costs are expensed. Accounts receivable and unbilled revenue that does not have a significant financing component are initially measured at the transaction price determined in accordance with IFRS 15. Accounts receivable are recognized on the date that they originate, and all other financial instruments are recognized when the Company becomes a party to the contractual provisions of the instrument. The Company considers whether a contract contains an embedded derivative when the Company first becomes party to it. Embedded derivatives are separately accounted for from the host contract if the host contract is not measured at FVTPL and when the economic characteristics and risks are not closely related to those of the host contract. Reassessment of the fair value of derivatives occurs each reporting period, with the changes in fair value recognized through profit or loss.

Financial assets

The classification of financial assets depends on the business model for managing the financial assets and the associated contractual cash flows. A financial asset is measured at amortized cost if it is held within a business model whose objective is to hold assets to collect contractual cash flows, and its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The Company's financial assets consist of cash and cash equivalents, short-term investments, restricted short-term investments, accounts receivable, unbilled revenue, and deferred compensation asset, all of which are classified at amortized cost.

Financial liabilities

The Company determines the classification of its financial liabilities at initial recognition. The Company's financial liabilities consist of accounts payable and accrued liabilities, convertible debentures, long-term debt and deferred compensation liabilities, which are classified at amortized cost.

Subsequent measurement

Subsequent to initial recognition, financial assets and liabilities classified at amortized cost are measured using the effective interest method, less, in the case of financial assets, any impairment. Interest income and expense, foreign exchange gains and losses, impairment and any gain or loss on derecognition are recognized in profit and

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

loss. Contingent liabilities are reported at fair value and the gain or loss recognized in profit and loss as an other charge.

Derecognition
The Company derecognizes a financial asset when the rights to receive cash flows from the financial asset have expired or have been transferred and the Company has transferred substantially all risks and rewards of ownership. The Company derecognizes a financial liability when the contractual obligations are discharged, cancelled or expired.

Derivative instruments
The Company may use derivative financial instruments to reduce exposure to fluctuation in foreign currency exchange rates. The Company may enter into foreign exchange contracts to hedge anticipated cash flows denominated in a foreign currency. Embedded derivatives are separated from the host contract and accounted for separately if the host contract is not a financial asset or liability and certain criteria are met. Derivative assets and liabilities are remeasured at each subsequent reporting period with any gains or losses arising from changes in fair value recorded within profit or loss.

The Company has elected not to apply hedge accounting to derivative contracts; as such, these derivative financial instruments are recorded at fair value upon recognition and on a recurring basis, with subsequent changes in fair value recorded in profit or loss during the period of change. Derivatives are reported as other current assets when they have a positive fair value and as other current liabilities when they have a negative fair value.

Fair value measurement of financial instruments
The Company uses various valuation techniques and assumptions when measuring fair value of its financial assets and financial liabilities. The Company utilizes market data or assumptions that market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique.

The Company's fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value. The three levels of the fair value hierarchy are as follows:

Level 1 – Inputs are based on quoted prices (unadjusted) in active markets that are accessible at the reporting date for identical assets or liabilities;

Level 2 – Inputs are based on quoted prices included in Level 1 that are observable for the asset or liability either directly (i.e., prices) or indirectly (i.e., derived from prices); and

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Level 3 – Inputs are based on prices or valuation techniques that are both unobservable and significant to the overall fair value measurement.

The following methods and assumptions were used to estimate the fair values of each class of financial instruments for which it is practicable to estimate that value.

Derivative financial instruments
The fair value of sales contract embedded derivatives is measured using a market approach, based on the difference between the quoted forward exchange rate as of the contract date and quoted forward exchange rate as of the reporting date. The fair value of forward exchange contracts is determined using the quoted forward exchange rates at the reporting date. The fair value of derivative liabilities related to the convertible debentures is measured using the Black-Scholes option pricing model.

Contingent liabilities
Contingent liabilities are carried at fair value, which is calculated using management's estimates or, where appropriate, a Monte Carlo simulation model.

The carrying amount of the Company's other financial assets and liabilities, including cash and cash equivalents, short-term investments, restricted short-term investments, accounts receivable, unbilled revenue, and accounts payable and accrued liabilities approximate their fair value due to their short-term maturity. The fair value of the bank indebtedness and long-term debt approximates the carrying amount since these debt instruments have floating interest rates. The fair value of convertible debentures is initially recognized at fair value, and subsequently measured at amortized cost using the effective interest rate method.

Impairment of non-derivative financial assets
The Company applies the IFRS 9, "Financial Instruments" simplified approach to measuring expected credit losses, which uses a lifetime expected loss allowance for all accounts receivable and contract assets. Lifetime expected credit losses are estimated based on factors such as the Company's past experience of collecting payments, observable changes in national or local economic conditions that correlate with default on receivables, and financial condition of the borrower. Financial assets are written off when there is no reasonable expectation of recovery.

Research and development
Research costs are included in the consolidated statements of income (loss) and comprehensive income (loss) in the periods in which they are incurred, net of earned investment tax credits. Software development costs are deferred and amortized when technological feasibility has been established, or otherwise are expensed as incurred.

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Warranties

The Company records the estimated costs of product warranties at the time revenue is recognized. Warranty obligation arises from the Company having to replace goods and/or services that have failed to meet required customer specifications due to breakdown or error related to product or workmanship. The Company's warranty obligations are affected by product failure rates, differences in warranty periods, regulatory developments with respect to warranty obligations in the countries in which the Company carries on business, freight expense and material usage and other related repair costs.

The Company's estimates of costs are based upon historical experience, expectations of future return rates and unit warranty repair costs. If the Company experiences increased or decreased warranty activity or increased or decreased costs associated with servicing those obligations, revisions to the estimated warranty liability are recognized in the reporting period when such revisions are made.

Financing costs

Financing costs are comprised of borrowing costs related to short- and long-term debt and the unwinding of the discount on provisions.

Leases

At inception of a contract, the Company assesses whether a contract is, or contains, a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Company recognizes a right-of-use ("ROU") asset and a lease liability at the lease commencement date, which is the date the leased asset is available for use. The Company has elected not to separate lease and non-lease components and instead treats them all as lease payments and a single lease component.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's incremental borrowing rate. The incremental borrowing rate is the rate that the Company would have to pay to borrow the funds necessary to obtain an asset of similar value to the ROU asset in a similar economic environment with similar terms, security and conditions. The lease term includes periods covered by an option to extend if the Company is reasonably certain to exercise that option. The lease liability is measured at amortized cost using the effective interest method. The lease liability is remeasured when there is a change in future lease payments arising from a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease liability is remeasured, a corresponding adjustment

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

is made to the carrying amount of the ROU asset unless it has been reduced to zero. Any further reduction in the lease liability is then recognized in profit or loss.

The ROU asset is initially measured based on the initial lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received. The ROU assets are depreciated over the shorter of the lease term and the useful life of the underlying asset using the straight-line method as this most closely reflects the expected pattern of the consumption of the future economic benefits. In addition, the ROU asset can be periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

A lease modification will be accounted for as a separate lease if the modification increases the scope of the lease and if the consideration for the lease increases by an amount commensurate with the stand-alone price for the increase in scope. For a modification that is not a separate lease or where the increase in consideration is not commensurate, at the effective date of the lease modification, the Company will remeasure the lease liability using the Company’s incremental borrowing rate on the date of modification, when the rate implicit to the lease is not readily available, with a corresponding adjustment to the ROU asset.

The lease payments associated with short-term and low-value leases are recognized as an expense on a straight-line basis over the lease term as the Company has elected the relevant practical expedients. Short-term leases are those with a lease term of 12 months or less. Low-value asset leases are those leases where the asset being leased when new has a value of less than US$5.

Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker ("CODM"). The CODM is the person or persons who are responsible for allocating resources and assessing performance of the operating segments. The CODM has been identified as the Chief Executive Officer.

Income taxes, deferred taxes and investment tax credits

Income taxes comprise current and deferred income taxes. Income taxes are recognized in the consolidated statements of income (loss) and comprehensive income (loss), except to the extent that they relate to items recognized directly in equity or in OCI, in which case the income taxes are also recognized in equity or in OCI.

2. SIGNIFICANT ACCOUNTING POLICIES (continued)

Current income taxes are the expected taxes payable on the taxable income for the year, using income tax rates enacted or substantively enacted, at the end of the reporting period, and any adjustment to income taxes payable in respect of previous years.

Deferred income tax assets and liabilities are determined based on the difference between the accounting and tax bases of the assets and liabilities and measured using the enacted tax rates that are expected to be in effect when the differences are estimated to be reversed. The realization of deferred income tax assets is dependent upon the generation of sufficient future taxable income during the periods prior to the expiration of the associated tax attributes. The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be used. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax assets to be recovered.

The Company is also engaged in scientific research and experimental development giving rise to investment tax credits that may be available to reduce future taxes payable in certain jurisdictions. In calculating income taxes and investment tax credits, consideration is given to factors such as current and future tax rates in the different jurisdictions, non-deductible expenses, qualifying expenditures and changes in tax law. In addition, management makes judgments on the ability of the Company to realize these investment tax credits reported as assets based on its estimations of amounts and timing of future taxable income and future cash flows in the related jurisdiction.

Government grants

The Company recognizes government grants when there is reasonable assurance that the Company will comply with the corresponding conditions attached to the grant and that the grant will be received.

Government grants are recognized in the consolidated statements of income (loss) and comprehensive income (loss) on a systematic basis over the periods in which the Company recognizes as expenses the related costs for which the grants are intended to compensate and are deducted from the related expense.

3. FUTURE ACCOUNTING PRONOUNCEMENTS

Listed below are the standards, amendments and interpretations that the Company reasonably expects to be applicable at a future date and intends to adopt when they become effective.

Amendments to IAS 1 and IFRS Practice Statement 2 – Disclosure of Accounting Policies
In February 2021, the IASB issued amendments to IAS 1 and IFRS Practice Statement 2, "Making Materiality Judgements", in which it provides guidance and examples to help entities apply materiality judgments to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their "significant" accounting policies with a requirement to disclose their material accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments are applicable for annual reporting periods beginning on or after January 1, 2023, with early adoption permitted. Since the amendments to the IFRS Practice Statement 2 provide non-mandatory guidance on the application of the definition of material to accounting policy information, an effective date for these amendments is not necessary.

Amendments to IAS 8, Definition of Accounting Estimate – Changes to Accounting Estimates and Errors
In February 2021, the IASB issued amendments to IAS 8, in which it introduces a definition of 'accounting estimates'. The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual periods beginning on or after January 1, 2023, with early adoption permitted.

Amendments to IAS 1, Presentation of Financial Statements - Classification of Liabilities as Current or Non-Current
In January 2020 and October 2022, the IASB issued amendments to paragraphs 69 - 76 of IAS 1 to clarify the requirements for classifying liabilities as current or non-current. The amendments specify that the conditions which exist at the end of a reporting period are those which will be used to determine if a right to defer settlement of a liability exists. The amendments also clarify the situations that are considered a settlement of a liability. The amendments are effective for annual periods on or after January 1, 2024, with early adoption permitted. The amendments are to be applied retrospectively.

Management is currently assessing the impact of these amendments.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

4. BUSINESS COMBINATIONS

Acquisitions are accounted for using the acquisition method of accounting and the financial statements include the acquisition results since the respective acquisition dates.

On January 5, 2021, the Company's wholly owned subsidiary, International Road Dynamics Inc. ("IRD"), acquired 100% of the issued and outstanding shares of Sensor Line – Gesellschaft für Optoelektronische Sensoren mbH ("Sensor Line"), a German ITS provider of highly regarded fiber optic traffic sensors for road and rail markets. On April 28, 2021, IRD acquired 100% of the issued and outstanding shares of VDS Verkehrstechnik GmbH ("VDS"), a German ITS provider of high-precision monitoring devices. Both Sensor Line and VDS have been integrated into IRD and form part of the ITS segment. On September 1, 2021, the Company acquired 100% of the issued and outstanding equity of Richardson, Texas-based Electronic Transaction Consultants, LLC ("ETC") by acquiring all the issued and outstanding shares of its parent holding companies. ETC is a leader in providing tolling and mobility systems to tolling authorities across the United States. The purchase of these acquisitions broadens the Company's product and services suite in the ITS industry and expands its geographic footprint further into the European and North American markets. The transactions, valued at $5,933 (€3,800), $2,780 (€1,837) and $151,313 (USD $120,023) for Sensor Line, VDS and ETC, respectively, were financed through the Company's cash reserves and debt financing.

The following tables summarize the fair value allocations of identifiable assets acquired and liabilities assumed as part of the acquisitions on each closing date:

Sensor Line:

Cash consideration paid	**$5,933**
Identifiable net assets acquired at fair value:	
Accounts receivable	**$793**
Inventories	**547**
Prepaid expenses and deposits	**103**
Property, plant and equipment	**151**
Intangible assets	
Customer relationships	**2,322**
Developed software	**854**
Goodwill	**2,563**
Deferred income tax assets	**36**
Bank indebtedness	**(142)**
Accounts payable and accrued liabilities	**(295)**
Income taxes payable	**(46)**
Deferred income tax liabilities	**(953)**
Total identifiable net assets at fair value	**$5,933**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

4. BUSINESS COMBINATIONS (continued)

VDS:

Cash consideration paid	**$2,780**
Identifiable net assets acquired at fair value:	
Accounts receivable	**$154**
Inventories	**674**
Prepaid expenses and deposits	**16**
Right-of-use assets	**600**
Property, plant and equipment	**271**
Intangible assets	
Customer relationships	**746**
Developed software	**640**
Goodwill	**995**
Accounts payable and accrued liabilities	**(316)**
Lease liabilities	**(600)**
Deferred income tax liabilities	**(400)**
Total identifiable net assets at fair value	**$2,780**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

4. BUSINESS COMBINATIONS (continued)

ETC:

Cash consideration paid	**$151,313**
Identifiable net assets acquired at fair value:	
Cash and cash equivalents	**$145**
Accounts receivable	**9,589**
Unbilled revenue	**9,715**
Prepaid expenses and deposits	**2,665**
Accounts and other long-term receivables	**218**
Deferred compensation asset	**1,413**
Right-of-use assets	**4,201**
Property, plant and equipment	**2,974**
Intangible assets	
Customer relationships	**50,680**
Developed software	**34,039**
Trade name and other	**16,137**
Non-competition agreement	**1,135**
Goodwill	**33,379**
Accounts payable and accrued liabilities	**(8,452)**
Deferred revenue	**(291)**
Lease liabilities	**(4,202)**
Deferred compensation liability	**(1,257)**
Deferred income tax liabilities	**(775)**
Total identifiable net assets at fair value	**$151,313**

The goodwill recognized is attributable to intangible assets that do not qualify for separate recognition and may include expected synergies arising from the combined operations and the Company's other existing businesses within the ITS segment, expected growth in the markets that they serve, and the strength of the assembled workforce in each. Only the goodwill from the ETC acquisition is deductible for tax purposes.

For the year ended December 31, 2021, sales and net loss relating to the Sensor Line acquisition were $3,539 and $25. Due to the timing of the acquisition of Sensor Line, these amounts are the same as if the acquisition had occurred at the beginning of the year. Sales and net income relating to the VDS acquisition were $2,314 and $98 for the year ended December 31, 2021. If the acquisition of VDS had been completed as of January 1, 2021, the Company estimates that this subsidiary's revenue would have been $2,899 and its net loss would have been $178 for the year ended December 31, 2021. The sales and net income of ETC for the year ended December 31, 2021 were $36,446 and $162. Had the acquisition of ETC occurred on January 1, 2021, sales and net loss are estimated to have been $91,440 and $5,473 for the year ended December 31, 2021.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

5. FINANCIAL INSTRUMENTS

Derivatives include the embedded derivative portion of the unearned revenue of US dollar denominated sales contracts in the Company's Canadian, Chilean and Mexican subsidiaries. The fair value of sales contract embedded derivatives is measured using a market approach, based on the difference between quoted forward exchange rates as of the contract date and quoted forward exchange rates as of the reporting date. Derivatives also include the derivative liability portion of convertible debentures and are measured using the Black-Scholes option pricing model. The fair value of convertible debentures and long-term debt approximates carrying value as these instruments bear interest at market rates. The carrying amount of the Company's other financial assets and liabilities, including cash and cash equivalents, short-term investments, restricted short-term investments, accounts receivable, unbilled revenue and accounts payable and accrued liabilities, approximates their fair values due to the short-term maturity of these items.

Inputs used to calculate the fair value of derivative and convertible debentures financial instruments are classified as Level 2 inputs, inputs used to calculate contingent liabilities are classified as Level 3 inputs, and inputs for all other financial instruments for which fair value approximates carrying value are classified as Level 1 inputs.

6. UNBILLED REVENUE AND DEFERRED REVENUE

Significant changes in unbilled revenue and deferred revenue balances during the year ended December 31, 2022 are as follows:

As at	**December 31, 2022**	December 31, 2021	$ Change
Unbilled revenue	**$41,423**	$35,926	$5,497
Deferred revenue - current	**(8,542)**	(7,989)	(553)
Deferred revenue - non-current	**(2,744)**	(2,839)	95
Net contract assets	**$30,137**	$25,098	$5,039

Revenue recognized for the year ended December 31, 2022 that was included in deferred revenue at the beginning of the year was $6,834 (2021- $3,129).

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

7. INVENTORIES

As at	**December 31, 2022**	December 31, 2021
Raw materials	**$2,101**	$2,150
Original equipment manufacturer materials	**6,517**	5,528
Work in process	**1,642**	1,564
Finished goods	**3,411**	4,489
	$13,671	$13,731

During the year, inventories expensed within direct cost of revenues were $21,200 (2021- $24,230). Write-downs of inventory that were included in direct cost of revenues for the year were $105 (2021- $230). Reversals of write-downs recognized during the year were $127 (2021- $125).

8. RIGHT-OF-USE ASSETS AND LEASE LIABILITIES

The Company has leases for corporate offices, production facilities, vehicles and equipment used in operations. These leases have remaining lease terms ranging from 3 months to 10 years, some of which include options to extend the leases for up to 14 years or to terminate the lease with notice periods of 120 days to 6 months or at predetermined dates as specified within the lease contract. The Company has classified the assets related to these leases as right-of-use assets and the liabilities associated with the future lease payments under these leases as lease liabilities. The following table provides details of changes in the Company's right-of-use assets:

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

8. RIGHT-OF-USE ASSETS AND LEASE LIABILITIES (continued)

	Note	**Buildings**	**Vehicles and Operations Equipment**	**Total**
Cost				
Balance, January 1, 2021		$5,899	$31	$5,930
Additions		909	-	909
Acquisitions through business combinations	4	4,375	426	4,801
Disposals		(131)	-	(131)
Foreign currency translation		(118)	(20)	(138)
Balance, December 31, 2021		10,934	437	11,371
Additions		**6,304**	**63**	**6,367**
Disposals		**(46)**	**-**	**(46)**
Impairment		**(1,778)**	**-**	**(1,778)**
Foreign currency translation		**731**	**(2)**	**729**
Balance, December 31, 2022		**$16,145**	**$498**	**$16,643**
Accumulated Depreciation				
Balance, January 1, 2021		$2,123	$27	$2,150
Depreciation		1,441	127	1,568
Foreign currency translation		(107)	(1)	(108)
Balance, December 31, 2021		3,457	153	3,610
Depreciation		**2,371**	**164**	**2,535**
Disposals		**(46)**	**-**	**(46)**
Foreign currency translation		**230**	**2**	**232**
Balance, December 31, 2022		**$6,012**	**$319**	**$6,331**
Net Book Value				
Balance, January 1, 2021		$3,776	$4	$3,780
Balance, December 31, 2021		$7,477	$284	$7,761
Balance, December 31, 2022		**$10,133**	**$179**	**$10,312**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

8. RIGHT-OF-USE ASSETS AND LEASE LIABILITIES (continued)

The following table provides details of changes in the Company's lease liabilities:

	Note	
Balance, January 1, 2021		$3,759
Additions		909
Acquisitions through business combinations	4	4,802
Disposals		(131)
Interest		245
Payments		(1,659)
Foreign currency translation		(133)
Balance, December 31, 2021		7,792
Additions		**6,367**
Interest		**329**
Payments		**(2,545)**
Foreign currency translation		**323**
Balance, December 31, 2022		**$12,266**

As at	**December 31, 2022**
Maturities of lease liabilities:	
2023	**$3,007**
2024	**2,884**
2025	**2,628**
2026	**2,133**
2027	**1,582**
Thereafter	**1,685**
Total lease payments	**13,919**
Less imputed interest	**1,653**
Total	**$12,266**
Comprised of:	
Current portion of lease liabilities	**$2,611**
Long-term lease liabilities	**9,655**
Lease liabilities as of December 31, 2022	**$12,266**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

9. PROPERTY, PLANT AND EQUIPMENT

	Leasehold Improvements	Computer Equipment & Software	Furniture & Fixtures	Machinery & Equipment	Land & Building	Total
Cost						
Balance, January 1, 2021	$438	$3,936	$680	$2,295	$704	$8,053
Additions	34	158	347	610	-	1,149
Acquisitions through business combinations	8	1,979	676	704	29	3,396
Disposals	-	-	(44)	(381)	-	(425)
Foreign currency translation	(3)	(58)	(13)	(158)	(32)	(264)
Balance, December 31, 2021	477	6,015	1,646	3,070	701	11,909
Additions	**26**	**508**	**781**	**2,072**	**7**	**3,394**
Disposals	**-**	**-**	**-**	**(624)**	**-**	**(624)**
Foreign currency translation	**-**	**9**	**3**	**15**	**24**	**51**
Balance, December 31, 2022	**503**	**6,532**	**2,430**	**4,533**	**732**	**14,730**
Accumulated Depreciation						
Balance, January 1, 2021	167	3,318	627	1,097	61	5,270
Depreciation	43	633	207	701	(1)	1,583
Disposals	-	-	-	(385)	-	(385)
Foreign currency translation	-	(57)	(7)	(180)	(9)	(253)
Balance, December 31, 2021	210	3,894	827	1,233	51	6,215
Depreciation	**50**	**487**	**787**	**925**	**19**	**2,268**
Disposals	**-**	**-**	**-**	**(622)**	**-**	**(622)**
Foreign currency translation	**-**	**(18)**	**(24)**	**(14)**	**(1)**	**(57)**
Balance, December 31, 2022	**260**	**4,363**	**1,590**	**1,522**	**69**	**7,804**
Net Book Value						
Balance, January 1, 2021	$271	$618	$53	$1,198	$643	$2,783
Balance, December 31, 2021	$267	$2,121	$819	$1,837	$650	$5,694
Balance, December 31, 2022	**$243**	**$2,169**	**$840**	**$3,011**	**$663**	**$6,926**

The Company recognized no impairment during the year ended December 31, 2022 (2021- $nil).

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

10. INTANGIBLE ASSETS

	Patents	Developed Software	Customer Relationships, Trade Name, Non-competition Agreements and Backlog	Total
Cost				
Balance, January 1, 2021	$398,731	$10,322	$21,004	$430,057
Additions	4,663	771	-	5,434
Acquisitions through business combinations	-	35,533	71,020	106,553
Disposals	(81)	-	-	(81)
Foreign currency translation	(826)	320	394	(112)
Balance, December 31, 2021	402,487	46,946	92,418	541,851
Additions	**-**	**5,714**	**-**	**5,714**
Foreign currency translation	**26,654**	**2,618**	**4,730**	**34,002**
Balance, December 31, 2022	**429,141**	**55,278**	**97,148**	**581,567**
Accumulated Amortization				
Balance, January 1, 2021	352,756	7,292	10,748	370,796
Amortization	12,589	2,836	4,803	20,228
Disposals	(27)	-	-	(27)
Foreign currency translation	(457)	9	(53)	(501)
Balance, December 31, 2021	364,861	10,137	15,498	390,496
Amortization	**13,496**	**6,576**	**4,737**	**24,809**
Foreign currency translation	**24,674**	**309**	**(56)**	**24,927**
Balance, December 31, 2022	**403,031**	**17,022**	**20,179**	**440,232**
Net Book Value:				
Balance, January 1, 2021	**$45,975**	**$3,030**	**$10,256**	**$59,261**
Balance, December 31, 2021	**$37,626**	**$36,809**	**$76,920**	**$151,355**
Balance, December 31, 2022	**$26,110**	**$38,256**	**$76,969**	**$141,335**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

11. INVESTMENT IN JOINT VENTURE

	December 31, 2022	December 31, 2021
Balance, beginning of the year	**$7,458**	$6,704
Currency (loss) gain on financial statement translation	**(223)**	178
Company's share of earnings	**1,806**	1,924
Dividend received	**(1,290)**	(1,348)
Balance, as at	**$7,751**	$7,458

XPCT is a joint venture in China in which the Company’s subsidiary IRD holds a 50% interest. XPCT has two business divisions providing products and services to both the ITS industry and construction equipment manufacturers.

As a distributor for the Company's ITS manufactured goods, XPCT provides a strategic advantage to the Company to increase sales in the Chinese market.

IRD had sales to XPCT of $125 during the year ended December 31, 2022 (2021- $150). As at December 31, 2022, XPCT had no amounts owing to IRD (2021- $1).

As at December 31, 2022, IRD has an outstanding 100% joint and several liability guarantee to XPCT, for a loan in the amount of 15,000 yuan, or $2,945 (2021- $3,008); however, IRD can seek recourse against its joint venture partner for any amount greater than IRD's proportionate share of the liability. The amount owing represents the maximum amount available to be drawn under this facility.

The Company's ownership interest comprises a 50% share of net assets and net earnings of XPCT as well as purchase price adjustments to allocate fair values assigned to certain assets and liabilities at the time of acquisition. Summary financial information for XPCT is as follows:

As at	**December 31, 2022**	December 31, 2021
Cash	**$446**	$1,942
Other current assets	**40,532**	38,888
Non-current assets	**902**	1,456
Current liabilities		
Accounts payable and accrued liabilities	**(14,590)**	(14,630)
Short-term loans	**(9,844)**	(10,753)
Non-current liabilities	**(1,944)**	(1,987)
Net assets - 100%	**$15,502**	$14,916
Net assets attributable to the Company - 50%	**$7,751**	$7,458

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

11. INVESTMENT IN JOINT VENTURE (continued)

	Year ended December 31, 2022	2021
Revenues	**$43,943**	$53,722
Direct cost of revenues	**(35,915)**	(44,698)
Depreciation and amortization	**(1,499)**	(1,428)
Finance expense	**(962)**	(980)
Other expenses	**(1,322)**	(2,082)
Income before income taxes	**4,245**	4,534
Income tax expense	**633**	686
Net income - 100%	**$3,612**	$3,848
Net income attributable to the Company - 50%	**$1,806**	$1,924

12. DEFERRED COMPENSATION

Within the Company's ITS segment, its subsidiary, ETC, provides a deferred compensation plan that enables upper level management and executives to defer compensation until retirement. ETC funds these deferred compensation liabilities by making contributions to a trust invested in various mutual funds, presented as a deferred compensation asset on the financial statements.

13. GOODWILL

The changes in the carrying amount of goodwill by segment are presented in the table below:

	Note	Licensing	Intelligent Transportation Systems	Total
Balance, January 1, 2021		$16,093	$0	$16,093
Acquisitions	4	-	36,937	36,937
Foreign currency translation		(32)	67	35
Balance, December 31, 2021		16,061	37,004	53,065
Foreign currency translation		**1,065**	**2,255**	**3,320**
Balance, December 31, 2022		**$17,126**	**$39,259**	**$56,385**

In accordance with the IFRS guidance related to goodwill, the Company is required to assess the carrying amount of its goodwill for potential impairment annually or more frequently if events or a change in circumstances indicate that impairment may have occurred. The Company tests goodwill for impairment annually at year-end using data as of December 31 of that year at the level of the group of CGUs to which the goodwill is allocated, which corresponds with the corresponding operating segment.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

13. GOODWILL (continued)

The recoverable amount of the CGU to which the goodwill belongs is determined based on a value-in-use calculation that discounts the present value of estimated future cash flows at an appropriate risk-adjusted rate. The Company uses its internal forecasts to estimate future cash flows and includes an estimate of long-term future growth rates based on its most recent views of the long-term outlook for each business for a period of five years and did not use terminal growth rate. Actual results may differ from those assumed in these forecasts. The Company derives its discount rates using a capital asset pricing model and by analyzing published rates for industries relevant to its reporting units to estimate the cost of equity financing. The Company uses discount rates that are commensurate with the risks and uncertainty inherent in the respective businesses and in its internally developed forecasts. The discount rates used in the licensing and ITS segment valuations as at December 31, 2022 were 14% and 12%, respectively (2021- 12% and 8%, respectively).

The results of the assessments performed as at December 31, 2022 and December 31, 2021 indicated that the recoverable amount of these operating segments exceeded their carrying values, and management believes that no reasonably possible change in any of the above key assumptions would have caused the carrying amount to exceed its recoverable amount.

Estimating the fair value of reporting units requires the use of estimates and significant judgments that are based on a number of factors including actual operating results. It is reasonably possible that the judgments and estimates described above could change in future periods.

14. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

As at	**December 31, 2022**	December 31, 2021
Trade payables	**$21,376**	$25,448
Accrued compensation	**10,781**	7,325
Accrued contingent partner payments & legal fees	**1,146**	3,156
Dividends payable	**1,433**	1,424
Accrued litigation costs	**6,473**	1,161
Accrued project losses	**4,228**	1,471
Other current liabilities	**1,626**	2,023
	$47,063	$42,008

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

15. LONG-TERM DEBT

As at	**December 31, 2022**	December 31, 2021
Senior term credit facility:		
US$50,000, due August 31, 2026	**$29,681**	$62,826
Less: current portion of long-term debt	**(29,292)**	(3,181)
Debt issuance costs, net of amortization	**(389)**	(677)
Total long-term debt	**$ -**	$58,968

During the year ended December 31, 2021, Quarterhill ITS, the parent company of the ITS segment and wholly owned subsidiary of Quarterhill Inc., entered into a credit agreement to receive senior secured credit facilities from HSBC Bank Canada and Royal Bank of Canada consisting of a revolving credit facility in the maximum amount of US$15,000 and a term credit facility of US$50,000. These credit facilities replaced all existing facilities the Company had with HSBC Bank Canada. The interest rate for the facilities as at December 31, 2022 was 6.91%. Both the facilities have a maturity date of August 31, 2026 with a general security agreement over all of the assets in North America of IRD, ETC and its parent holding company, Quarterhill USA Inc. The carrying value of these assets as at December 31, 2022 was $261,348.

During the year ended December 31, 2022, no amounts were drawn from the revolving credit facility. Repayments, if any amounts are drawn, on the revolving credit facility are ultimately due on the maturity date. The repayment of principal on the term credit facility is structured as quarterly payments based on 1.25% principal repayment per quarter in the first two years and 2.5% per quarter thereafter until the maturity date, upon which the remaining balance is due.

The credit agreement includes covenants, restrictions and events of default usually present in credit facilities of this nature, including requirements to meet certain financial tests periodically and restrictions on additional indebtedness and encumbrances. The financial covenants the Company must maintain are as follows:

- a Fixed Charge Coverage Ratio of at least 1.20 to 1.00 on a rolling four-quarter basis; and
- a Senior Leverage Ratio of not more than 3.50 to 1.00 as at September 1, 2021 and thereafter up to and including the fiscal quarter ending March 31, 2023 and 3.00 to 1.00 from April 1, 2023 and at all times thereafter, up to and including the maturity date. This ratio may increase by 0.50 to 1.00 for the next two fiscal quarters immediately following an acquisition if the aggregate purchase price is equal to or greater than US$20,000.

The Company was not in compliance with the Fixed Charge Coverage Ratio and Senior Leverage Ratio covenants of the credit agreement as of December 31, 2022. Following year end, the credit agreement was amended to provide that the Company did meet such covenants at December 31, 2022. Because this amendment was agreed to following year-end, for financial reporting purposes under IFRS, the Company did not have the unconditional right to defer the repayment of the debt beyond twelve months and, as such, the outstanding balance is presented as a current liability as at December 31, 2022.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

15. LONG-TERM DEBT (continued)

Scheduled principal repayments on long-term debt are as follows:

	Principal
To December 31, 2023	**$4,240**
To December 31, 2024	**6,784**
To December 31, 2025	**6,784**
To August 31, 2026	**11,873**
	$29,681

The Company also has incurred a revolving demand facility through its Wi-LAN Inc. ("WiLAN") subsidiary to support letters of credit and/or letters of guarantee with Royal Bank of Canada for which restricted short-term investments are held as collateral. As at December 31, 2022, a $5,669 (US$4,178) letter of credit is outstanding against the revolving demand facility.

In addition, the Company has a revolving credit facility available with the Canadian Imperial Bank of Commerce in the amount of $8,000 or the equivalent in US dollars for general corporate purposes and a further US$2,000 for a foreign exchange facility. Canadian dollar or US dollar amounts advanced under this credit facility are payable on demand and bear interest at the bank's Canadian prime rate plus 1.0% per annum or US base rate plus 1.0% per annum. Borrowings under this facility are collateralized by a general security agreement over the Company's cash and cash equivalents, accounts receivable and present and future personal property. As at December 31, 2022 and during the year ended December 31, 2022, the Company had no borrowings under this facility (2021 – $nil).

16. CONVERTIBLE DEBENTURES AND DERIVATIVE LIABILITY

The following table illustrates the allocation of the gross proceeds of the Debentures between debt and equity at issuance and subsequent remeasurement:

	December 31, 2022	December 31, 2021
Convertible Unsecured Subordinated Debentures:		
Gross proceeds	**$57,500**	$57,500
Convertible debentures, host debt component	**$50,003**	$47,967
Debt issuance costs, net of amortization	**(1,624)**	(2,008)
Convertible debentures	**$48,379**	$45,959
Convertible debentures, derivative liability component, opening	**$9,441**	$9,533
Change in fair value of derivative liability	**(7,655)**	(92)
Derivative liability, ending	**$1,786**	$9,441

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

16. CONVERTIBLE DEBENTURES AND DERIVATIVE LIABILITY (continued)

On October 27, 2021, the Company completed a brokered financing of $57,500 by way of the issuance of unsecured subordinated convertible debentures (the “Debentures”), which includes the full exercise of a $7,500 over allotment option by the underwriters. The Debentures are traded on the TSX under the symbol “QTRH.DB”.

The Debentures have a coupon rate of 6%, payable semi-annually, with a maturity date of October 30, 2026 and an initial conversion price into common shares of $3.80. Each Debenture is convertible into common shares of the Company at the option of the holder at any time prior to the close of business on the earlier of the last business day immediately preceding the date of maturity of October 30, 2026 (the "Maturity Date"). Holders converting their Debentures will, in addition to the applicable number of common shares to be received on conversion, receive accrued and unpaid interest, if any, thereon for the period from the last interest payment date on their Debentures up to, but excluding, the date of conversion. Except in certain circumstances involving a “Change of Control”, the Debentures will not be redeemable at the option of the Company before October 31, 2024. On or after October 31, 2024 and prior to October 31, 2025, the Debentures may be redeemed in whole or in part at the option of the Company on not more than 60 days’ and not less than 30 days’ prior notice at a price equal to the principal amount plus accrued and unpaid interest, provided that the volume weighted average trading price of the common shares on the TSX for 20 consecutive trading days ending on the fifth trading day preceding the date on which the notice of redemption is given is not less than 125% of the then conversion price. On or after October 31, 2025 and prior to the Maturity Date, the Debentures may be redeemed in whole or in part at the option of the Company 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.

Assuming the conversion of all of the Debentures, the Company will issue 15,131,579 common shares. The initial fair value of the conversion option was estimated at $9,533. The conversion option is considered a derivative because the exercise price is in Canadian dollars whereas the Company's functional currency is US dollars. Accordingly, the Company recognizes the conversion option as a liability at fair value with changes in fair value recognized through profit or loss. The fair value of the conversion option is calculated using the Black-Scholes option pricing model with the following weighted average assumptions:

As at	**December 31, 2022**	December 31, 2021
Risk-free rate	**3.89%**	1.00%
Expected life (in years)	**3.80**	4.80
Expected volatility	**38%**	46%
Expected dividend yield	**1.95%**	1.95%
Share price	**$1.58**	$2.70

Debt issuance costs incurred in 2021 associated with the issuance of the Debentures were $2,476 and were allocated between the host debt and the conversion option on a relative fair value basis.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

17. CONTINGENT LIABILITIES

In connection with Quarterhill's original acquisition of VIZIYA Corp. ("VIZIYA") in 2017, the Company agreed to pay VIZIYA's former shareholders up to an additional US$11,900 in cash and common shares pursuant to the terms of the acquisition agreement if VIZIYA achieved certain targets for its earnings before interest, taxes and amortization ("Eligible Earnings") between at least US$6,750 and US$11,850 for the period from April 1, 2017 to July 31, 2019. Additionally, if VIZIYA achieved cumulative Eligible Earnings during that period exceeding US$11,850, the Company would be required to pay 50% of the amount of those excess Eligible Earnings as additional contingent consideration until that cumulative Eligible Earnings reached a cap of US$23,700. In 2019, Quarterhill determined that VIZIYA did not achieve the minimum amount of cumulative Eligible Earnings for its former shareholders to be paid any additional amounts. In 2019, VIZIYA's former shareholders initiated arbitration of the Eligible Earnings and additional payment calculations pursuant to the terms of the acquisition agreement. This arbitration and a related litigation matter were fully and finally settled in July 2022 including by way of Quarterhill making a $14,600 (approximately US$11,300) payment in cash; all other details of this settlement are confidential. The Company has recognized this payment through "Other charges".

18. SHARE CAPITAL

The share capital of the Company consists of the following:

		Issued and Outstanding	
	Authorized	December 31, 2022	December 31, 2021
a. common shares, with no par value	unlimited	114,639,700	113,880,853
b. special preferred, redeemable, retractable, non-voting shares	6,350.90	Nil	Nil
c. preferred shares, issuable in series	unlimited	Nil	Nil

	Number
January 1, 2021	114,322,032
Issuance of common shares upon vesting of restricted stock units	106,887
Issuance of common shares upon vesting of performance stock units	41,312
Shares repurchased under normal course issuer bid for cancellation	(841,300)
Exercise of stock options	251,922
December 31, 2021	113,880,853
Issuance of common shares upon vesting of restricted stock units	131,316
Issuance of common shares upon vesting of performance stock units	19,196
Exercise of stock options	608,335
December 31, 2022	**114,639,700**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

18. SHARE CAPITAL (continued)

NCIB

On August 6, 2020, the Company received approval from TSX on its notice of intention to make a normal course issuer bid to purchase for cancellation up to 11,303,777 of its outstanding common shares (the "NCIB"). During the year ended December 31, 2021, the Company repurchased for cancellation 841,300 common shares at an average purchase price of $2.45 per share totaling $2,065 under the NCIB. Since the commencement of the NCIB on August 10, 2020, the Company has repurchased a total of 3,047,936 shares for $6,363. The NCIB expired on August 9, 2021.

The Company paid quarterly cash dividends as follows:

	2022		2021	
	Per Share	**Total**	Per Share	Total
1st quarter	**$0.0125**	**$1,408**	$0.0125	$1,432
2nd quarter	**$0.0125**	**1,432**	$0.0125	1,422
3rd quarter	**$0.0125**	**1,420**	$0.0125	1,420
4th quarter	**$0.0125**	**1,433**	$0.0125	1,415
	$0.0500	**$5,693**	$0.0500	$5,689

Stock-Based Compensation

At the annual and special meeting of shareholders held on April 18, 2018, Quarterhill's shareholders approved the adoption of the Company's 2018 Equity Incentive Plan (the "Equity Plan"). As at December 31, 2022, the Company had options to purchase up to 8,669,951 common shares outstanding. Upon adoption of the Equity Plan, all options outstanding under the Option Plan are now governed by the Equity Plan.

During the year ended December 31, 2022, the Company granted options to purchase 1,963,824 common shares at exercise prices ranging from $2.08 to $2.17. The Company used the Black-Scholes model for estimating the fair value of options granted with the following weighted average assumptions for the options granted in 2022.

	2022
Risk free rate	2.72%
Volatility	42.53%
Expected option life (in years)	3.70
Expected dividend yield	1.95%
Forfeiture rate	22.12%

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

18. SHARE CAPITAL (continued)

The table below illustrates the options activity for the years ending December 31, 2022 and 2021:

	Options Outstanding			Exercisable Options	
	Number of Options	Price Range	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
January 1, 2021	6,810,789	$1.33 — $4.23	$2.02	1,570,308	$2.04
Granted	2,322,887	2.39 — 2.70	2.64		
Forfeited	(267,482)	1.81 — 2.16	1.94		
Expired	(70,001)	1.89 — 2.14	2.01		
Exercised	(251,922)	1.33 — 2.16	1.87		
December 31, 2021	8,544,271	$1.33 — $4.23	$2.02	2,978,725	$2.04
Granted	**1,963,824**	**$2.08 — $2.17**	**$2.12**		
Forfeited	**(703,331)**	**1.81 — 2.84**	**2.53**		
Expired	**(526,478)**	**1.81 — 2.84**	**2.68**		
Exercised	**(608,335)**	**1.81 — 2.17**	**1.96**		
December 31, 2022	**8,669,951**	**$1.81 — $2.84**	**$2.13**	**4,136,055**	**$2.02**

The weighted average fair value per option granted during the year ended December 31, 2022 was $0.84 (2021 – $0.64).

The intrinsic value of the exercisable options was $97 as at December 31, 2022 (2021 - $1,384). The total fair value of options vested was $1,511 for the year ended December 31, 2022 (2021 - $1,775).

As at December 31, 2022, there was $2,031 of total unrecognized stock-based compensation cost, net of expected forfeitures, related to unvested stock-based compensation arrangements granted under the stock option plan. This cost is expected to be recognized over a weighted average period of 4.11 years. Details of the outstanding options at December 31, 2022 are as follows:

Range of Exercise Prices	Outstanding Options at December 31, 2022	Remaining Term of Options in Years	Weighted Average Exercise Price	Exercisable Options at December 31, 2022	Weighted Average Exercise Price
$1.33 — $1.49	**383,880**	**2.18**	**$1.33**	**383,880**	**$1.33**
1.50 — 1.99	**2,734,496**	**3.40**	**1.89**	**1,830,589**	**1.87**
2.00 — 2.49	**3,711,575**	**4.36**	**2.16**	**5,427,636**	**2.04**
2.50 — 2.99	**1,840,000**	**4.87**	**2.68**	**630,005**	**2.68**
$ 1.89 $ 4.37	**8,669,951**	**4.07**	**$2.15**	**8,272,110**	**2.02**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

18. SHARE CAPITAL (continued)

Restricted Stock Units

Pursuant to the Equity Plan, the Company has also granted restricted stock units (“RSUs”) to certain employees in May and June 2022. Pursuant to the Equity Plan, these RSUs are settled in common shares issued from treasury on a one-to-one basis in six tranches, with the first tranche vested at the grant dates of May 13, 2022 and June 6, 2022 and each subsequent tranche vesting upon the Company coming out of its regular quarterly blackout for the fiscal quarters ending June 30 and December 31, in 2022, 2023 and 2024. The Company granted 196,417 RSUs on May 13, 2022, valued using the most recent TSX closing price for the common shares on the grant date of $2.14 for a total of $420. The Company granted 150,000 RSUs on June 6, 2022, valued using the most recent TSX closing price for the common shares on the grant date of $2.09 for a total of $316. For the year ended December 31, 2022, the Company has recognized $597, respectively, in stock-based compensation expense as a result.

RSU activity for the years ended December 31, 2022 and 2021 was as follows:

	Number
January 1, 2021	177,118
Granted	556,721
Settled	(328,457)
Forfeited	(10,125)
December 31, 2021	395,257
Granted	**390,264**
Settled	**(313,045)**
Forfeited	**(49,613)**
December 31, 2022	**422,863**

19. OTHER CHARGES

Other charges within the consolidated statements of income (loss) and comprehensive income (loss) include costs and recoveries that relate to certain cost reduction initiatives that the Company has undertaken from time to time, acquisition-related costs and recoveries and other charges. During the year ended December 31, 2022, the Company recognized other charges of $20,893 (2021- $6,133).

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

19. OTHER CHARGES (continued)

Other charges for the years ended December 31, 2022 and December 31, 2021 were as follows:

		Year ended December 31,	
	Note	**2022**	2021
VIZIYA settlement	16	**$14,600**	$ -
VIZIYA-related arbitration fees		**1,405**	-
Termination costs		**603**	117
Severance costs		**2,507**	1,442
Impairment of leased asset		**1,778**	-
Acquisition costs		**-**	4,574
Total other charges		**$20,893**	$6,133

20. INCOME (LOSS) PER SHARE

Basic income (loss) per share is calculated by dividing net income (loss) by the weighted average number of common shares outstanding during the year. Diluted (loss) income per share is calculated by dividing net income (loss) by the adjusted weighted average number of common shares outstanding to assume conversion of all potential dilutive stock options to common shares.

	Year ended December 31,	
	2022	2021
Numerator:		
Net income (loss)	**$2,766**	($22,183)
Denominator:		
Weighted average number of common shares outstanding for basic income (loss) per share	**114,389,608**	114,013,610
Adjustment for stock options	**505,192**	-
Weighted average number of common shares outstanding for diluted income (loss) per share	**114,894,800**	114,013,610
Basic income (loss) per share	**$0.02**	($0.19)
Diluted income (loss) per share	**$0.02**	($0.19)

21. SEGMENT REPORTING

An operating segment is a component of the Company that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Company's other components, and for which discrete financial information is available. The operating results of all operating segments are reviewed regularly by the Company's CODM to make decisions about resources to be allocated to the segment and assess their performance. The Company's CODM is the Chief Executive Officer. The Company's operating segments are organized on the basis of products and services provided and also represent its reportable segments. The Company's reportable segments, identified as Licensing and ITS, follow the same accounting policies as those described in these consolidated financial statements and are further described below.

Intelligent Transportation Systems – This segment includes companies that provide integrated, tolling and mobility systems and solutions to the ITS industry as well as its adjacent markets. The ITS industry is focused on enhancing the safety, increasing the efficiency and reducing the environmental impact of highway and roadway transportation systems.

Licensing – This segment includes companies that count licensing as their principal business activity. The Company's investment in this segment consists of WiLAN and its wholly owned subsidiaries. Current patent portfolios include patents relating to memory interface technologies, semiconductor manufacturing and packaging technologies, 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.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

21. SEGMENT REPORTING (continued)

Segmented information for the years ended December 31, 2022 and 2021 on the consolidated statements of income (loss) and comprehensive income (loss) are:

	Year ended December 31, 2022			
	Licensing	**Intelligent Transportation Systems**	**Corporate**	**Total**
Revenues	**$146,356**	**$159,334**	**$ -**	**$305,690**
Direct cost of revenues	**66,629**	**121,525**	**-**	**188,154**
Gross profit	**79,727**	**37,809**	**-**	**117,536**
Depreciation of right-of-use assets	**208**	**2,178**	**149**	**2,535**
Depreciation of property, plant and equipment	**34**	**2,202**	**32**	**2,268**
Amortization of intangible assets	**13,189**	**11,620**	**-**	**24,809**
Selling, general and administrative expenses	**4,899**	**38,396**	**10,220**	**53,515**
Research and development expenses	**-**	**2,539**	**-**	**2,539**
Other charges	**601**	**4,038**	**16,254**	**20,893**
Results from operations	**60,796**	**(23,164)**	**(26,655)**	**10,977**
Finance income	**(693)**	**(1)**	**(389)**	**(1,083)**
Finance expense	**261**	**3,308**	**6,455**	**10,024**
Foreign exchange loss (gain)	**127**	**(357)**	**(2,459)**	**(2,689)**
Other income	**-**	**(706)**	**(8,388)**	**(9,094)**
Income (loss) before taxes	**61,101**	**(25,408)**	**(21,874)**	**13,819**
Current income tax expense	**895**	**276**	**-**	**1,171**
Deferred income tax expense	**3,289**	**1,382**	**5,211**	**9,882**
Income tax expense	**4,184**	**1,658**	**5,211**	**11,053**
Net income (loss)	**$56,917**	**($27,066)**	**($27,085)**	**$2,766**

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

21. SEGMENT REPORTING (continued)

	Year ended December 31, 2021			
	Licensing	Intelligent Transportation Systems	Corporate	Total
Revenues	$25,722	$99,973	$ -	$125,695
Direct cost of revenues	21,809	66,451	-	88,260
Gross profit	3,913	33,522	-	37,435
Depreciation of right-of-use assets	200	1,194	174	1,568
Depreciation of property, plant and equipment	44	1,513	26	1,583
Amortization of intangible assets	12,306	7,922	-	20,228
Selling, general and administrative expenses	3,544	20,237	9,558	33,339
Research and development expenses	-	2,372	-	2,372
Other charges	-	3,630	2,503	6,133
Results from operations	(12,181)	(3,346)	(12,261)	(27,788)
Finance income	(47)	(4)	(113)	(164)
Finance expense	165	1,155	1,008	2,328
Foreign exchange gain	(119)	(692)	(405)	(1,216)
Other (income) expense	-	(2,039)	32	(2,007)
Loss before taxes	(12,180)	(1,766)	(12,783)	(26,729)
Current income tax expense	552	754	-	1,306
Deferred income tax (recovery) expense	(5,523)	(1,639)	1,310	(5,852)
Income tax (recovery) expense	(4,971)	(885)	1,310	(4,546)
Net loss	($7,209)	($881)	($14,093)	($22,183)

The following table includes revenue by contracts disaggregated by the timing of revenue recognition:

	Year ended December 31,	
	2022	2021
Revenue recognized at a point in time	**$165,656**	$24,902
Revenue recognized over time	**140,034**	100,793
Total revenues	**$305,690**	$125,695

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

21. SEGMENT REPORTING (continued)

Revenues by geography for the years ended December 31, 2022 and 2021 are as follows:

	Year ended December 31,	
	2022	2021
United States	**$266,536**	$87,310
Canada	**3,552**	2,936
Chile	**4,444**	3,193
China	**1,378**	1,164
Korea	**2,462**	4,932
Ukraine	**401**	1,477
Taiwan	**5,439**	6,019
Thailand	**2,441**	3,306
Japan	**3,760**	-
Belgium	**1,063**	1,042
Germany	**6,156**	6,135
Rest of the world	**8,058**	8,181
Total revenues	**$305,690**	$125,695

Segment assets as at December 31, 2022 and December 31, 2021 are as follows:

As at	**December 31, 2022**	December 31, 2021
Licensing	**$87,687**	$86,468
Intelligent Transportation Systems	**279,220**	263,622
Total segment assets	**366,907**	350,090
Total corporate assets	**45,037**	77,105
Total assets	**$411,944**	$427,195

Total of property, plant and equipment, right-of-use assets, intangible assets, and goodwill by geography are as follows:

As at	**December 31, 2022**	December 31, 2021
United States	**$173,391**	$160,592
Canada	**33,143**	47,468
Belgium	**220**	339
Chile	**244**	841
Germany	**7,960**	8,635
Total	**$214,958**	$217,875

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

21. SEGMENT REPORTING (continued)

Major Customers

A major customer is defined as an external customer whose transactions within a segment of the Company amount to approximately 10% or greater of the respective segment's revenue. Two major customers of the Licensing segment represented $133,020 of total revenues for this segment for the year ended December 31, 2022, whereas for the year ended December 31, 2021, five major customers represented $22,777 of the segment's total revenues. There were two major customers of the ITS segment totaling $54,432 for the year ended December 31, 2022, whereas for the year ended December 31, 2021, there was one major customer that accounted for $10,941 of the segment's total revenues.

Remaining Performance Obligations

As at December 31, 2022, the amount of transaction price allocated to remaining performance obligations was $138,424. The Company expects to recognize approximately 55% of this revenue in 2023, 20% in 2024, and 25% thereafter.

22. EXPENSE BY NATURE

	Year ended December 31,	
	2022	2021
Personnel costs	**$82,361**	$46,632
Subcontractor fees	**22,795**	15,175
Direct and indirect materials costs	**31,003**	23,911
Litigation and licensing costs	**56,391**	13,698
Professional, patent and outside services	**31,293**	16,018
Communications and information technology	**13,862**	4,783
Facilities	**3,528**	2,294
Travel and entertainment	**2,093**	834
Other administrative expenses	**882**	626
Depreciation of right-of-use assets	**2,535**	1,568
Depreciation of property, plant and equipment	**2,268**	1,583
Amortization of intangible assets	**24,809**	20,228
Other charges	**20,893**	6,133
Total direct cost of revenues and operating expenses	**$294,713**	$153,483
Salaries and wages	**$62,781**	$39,388
Employee benefits	**11,691**	6,352
Stock-based compensation	**1,875**	1,955
Bonuses	**4,229**	1,921
Other personnel costs	**1,785**	690
Government grants earned	**-**	(3,674)
Total personnel costs	**$82,361**	$46,632

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

23. TAXES

The reconciliation of the expected provision for income tax expense (recovery) to the actual provision for income tax expense (recovery) reported in the consolidated statements of operations and comprehensive earnings for the year ended December 31, 2022 is as follows:

	Year ended December 31,	
	2022	2021
Net income (loss) before income taxes	**$13,819**	$(26,729)
Canadian statutory income tax rate	**26.50%**	26.50%
Expected income tax expense (recovery)	**$3,662**	$(7,083)
Permanent differences	**1,574**	521
Foreign withholding taxes paid	**-**	66
Foreign rate differential	**(86)**	67
Return to provision	**382**	545
Change in benefit of tax assets not recognized	**5,585**	1,151
Other	**(64)**	187
Income tax expense (recovery)	**$11,053**	$(4,546)

The income tax expense (recovery) is as follows:

	Year ended December 31,	
	2022	2021
Current income tax expense		
Current period	**$1,184**	$1,245
Adjustment in respect of prior periods	**(13)**	61
	1,171	1,306
Deferred income tax expense (recovery)		
Current period	**9,487**	(6,337)
Adjustment in respect of prior periods	**395**	485
	9,882	(5,852)
	$11,053	$(4,546)

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

23. TAXES (continued)

The effect of temporary differences, tax losses, and tax credits that give rise to significant components of the Company's deferred income tax assets and liabilities, which have been recognized during the year ended December 31, 2022 are as follows:

As at	**December 31, 2022**	December 31, 2021
Deferred income tax assets		
Tax loss carryforwards	**$16,378**	$23,741
Capital assets	**5,464**	2,151
Scientific research and experimental development ("SR&ED") carryforwards	**7,732**	8,023
Lease liabilities	**428**	1,991
Other temporary differences	**529**	1,880
Deferred income tax assets	**30,531**	37,786
Deferred income tax liabilities		
Right of use lease asset	**(394)**	(1,974)
Capital assets	**(4,058)**	(2,811)
Investments	**(436)**	(256)
Deferred revenue, unbilled revenue & prepaid accounts	**(2,056)**	(811)
Deferred income tax liabilities	**(6,944)**	(5,852)
Deferred income tax assets, net	**$23,587**	$31,934

The Company is required to assess whether it is probable that it will realize the benefits of its deferred tax assets based on consideration of all available evidence. The factors the Company uses to assess the likelihood of realization are its history of losses, forecasts of future pre-tax income, and tax planning strategies that could be implemented to realize the deferred tax assets. Accordingly, available deferred income tax assets in the amount of $28,320 were not recognized as it is not probable that future taxable income will be available to the Company to utilize the benefits.

The amount of deductible temporary differences, unused tax losses, and unused tax credits for which no deferred tax asset is recognized in the statement of financial position for the year ended December 31, 2022 is as follows:

As at	**December 31, 2022**	December 31, 2021
Tax loss carryforwards	**$53,238**	$51,769
Fixed assets	**22,136**	18,300
Tax credits	**8,201**	6,642
Other deductible temporary differences	**18,579**	265
	$102,154	$76,976

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

23. TAXES (continued)

As at December 31, 2022, the Company had unused non-capital tax losses of approximately $110,879 (2021 - $140,214) that are due to expire as follows:

Expiry	SR&ED pool	Canadian Tax Losses	US Tax Losses	Other Jurisdictions	Consolidated Tax Losses
2022	-	-	-		**-**
2023	-	-	-		**-**
2024	-	-	-		**-**
2025	-	-	-		**-**
2026	-	-	-		**-**
2027	-	-	-		**-**
2028	-	-	-		**-**
2029	-	-	-		**-**
2030	-	-	-		**-**
2031	-	-	-		**-**
2032	-	-	-		**-**
2033	-	5,336	-		**5,336**
2034	-	-	1,002		**1,002**
2035	-	-	5,636		**5,636**
2036	-	5,886	1,593		**7,479**
2037	-	4,094	11,261		**15,355**
2038	-	8,400	-		**8,400**
2039	-	387	-		**387**
2040	-	5,882	-		**5,882**
2041	-	17,560	3,804		**21,364**
2042		5,729	-		**5,729**
Indefinite	32,289	-	31,526	2,784	**34,310**
	$32,289	$53,273	$54,822	$2,784	**$110,879**

The Company has investment tax credits of $1,412 that expire in various amounts from 2023 to 2042. Investment tax credits, which are earned as a result of qualifying SR&ED expenditures, are recognized and applied to reduce income tax expense in the year in which the expenditures are made and their realization is reasonably assured. The company also has unused foreign tax credits of approximately $5,445 that expire in various amounts from 2026 to 2031.

As at December 31, 2022, the Company had temporary differences of $5,059 (2021 - $4,458) associated with investments in subsidiaries for which no deferred tax liabilities have been recognized, as the Company is able to control the timing of the reversal of these temporary differences and it is not probable that these differences will reverse in the foreseeable future.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

24. FINANCIAL RISK MANAGEMENT

Credit Risk

Credit risk is the risk of financial loss to the Company if a licensee or counterparty to a financial instrument fails to meet its contractual obligations. Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments, restricted short-term investments, accounts receivable and unbilled revenue. The Company recognizes a loss allowance provision using the simplified approach based on lifetime expected credit losses ("ECLs"). The Company's exposure to credit risk with its accounts receivable from customers is influenced mainly by the individual characteristics of each customer. The Company's customers, are for the most part, large multinational companies or government organizations which do not have a history of non-payment. Credit risk from accounts receivable encompasses the default risk of the Company's customers. Prior to entering into transactions with new customers, the Company assesses the risk of default associated with the particular customer. In addition, on an ongoing basis, management monitors the level of accounts receivable attributable to each customer and the length of time taken for amounts to be settled and, where necessary, takes appropriate action to follow up on those balances considered overdue. The Company has had no significant bad debts for any periods presented.

The following table provides an aging analysis of trade accounts receivable. The age of an invoice does not necessarily indicate an account is past due as many contracts for system revenue require the successful completion of system testing and acceptance.

As at	**December 31, 2022**	December 31, 2021
Current	**$8,978**	$5,542
1 - 30 days	**5,628**	13,241
31 - 60 days	**1,995**	4,123
61 - 90 days	**2,844**	3,141
91 days and over	**4,392**	5,065
Less expected credit loss	**(560)**	(936)
Accounts receivable	**23,277**	30,176
Long-term accounts receivable	**539**	505
Total accounts receivable	**$23,816**	$30,681

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

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

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

24. FINANCIAL RISK MANAGEMENT (continued)

Liquidity Risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company's objective in managing liquidity risk is to ensure that it has sufficient liquidity available to meet its liabilities when due. The Company manages its liquidity needs through various sources including cash generated through operations, cash reserves, various revolving credit facilities, and the issuance of common shares. The Company's cash and cash equivalents, short-term investments, and restricted short-term investments consist primarily of deposit investments that are held primarily with Canadian chartered banks. Management does not expect any counterparties to fail to meet their obligations. Though the Company has reclassified its long-term debt as current as a result of breaching its financial covenants, there is sufficient working capital to cover such a repayment.

The table below presents a maturity analysis of the Company's financial liabilities:

	Total	Less than 1 year	2 - 3 years	4 - 5 years	Thereafter
Accounts payable and accrued liabilities	$47,063	$47,063	$ -	$ -	$ -
Current portion of long-term debt	29,292	29,292	-	-	-
Convertible debentures	57,500	-	-	57,500	-
Lease liabilities	13,919	3,007	5,512	3,715	1,685
	$147,774	$79,362	$5,512	$61,215	$1,685

See Note 8 for maturity of lease liabilities.

Market Risk

Market risk is the risk to the Company that the fair value of future cash flows from its financial instruments will fluctuate due to changes in interest rates and foreign currency exchange rates. Market risk arises as a result of the Company generating revenues from foreign currency transactions.

Interest Rate Risk

The financial instruments that expose the Company to interest rate risk are its cash and cash equivalents, short-term investments, bank indebtedness and long-term debt. The Company's objectives of managing its cash and cash equivalents and short-term investments are to ensure sufficient funds are maintained on hand at all times to meet day-to-day requirements and to place any amounts that are considered in excess of day-to-day requirements on short-term deposit with the Company's banks so that they earn interest. When placing amounts of cash and cash equivalents into short-term investments, the Company only places investments with Canadian chartered banks and ensures that access to the amounts placed can be obtained on short notice. A 1% increase or decrease in interest rates would not have resulted in a material increase or decrease in interest income or expense during the year ended December 31, 2022.

24. FINANCIAL RISK MANAGEMENT (continued)

Currency Risk

Portions of the Company's revenues and operating expenses are denominated in US dollars, Indian rupees, Chilean pesos, Mexican pesos, Euros and Chinese yuan. Because these financial statements are reported in Canadian dollars, the Company's operating results are subject to changes in the exchange rate of the foreign currencies (primarily US dollars) relative to the Canadian dollar. For instance, a decrease in the value of the US dollar relative to the Canadian dollar has an unfavourable impact on US dollar denominated revenues and a favourable impact on US dollar denominated direct cost of revenue and operating expenses. Approximately 37% of the Company's cash and cash equivalents and short-term investments are denominated in US dollars and are subject to changes in the exchange rate of the Canadian dollar relative to the US dollar.

Foreign exchange risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate due to changes in foreign exchange rates. Foreign exchange gains or losses in net income (loss) arise on the translation of foreign currency-denominated assets and liabilities held in the Company's North American operations and foreign subsidiaries. As the parent company's functional currency is in US dollars, it is subject to changes in the exchange rate of foreign currencies, primarily the Canadian dollar, relative to the US dollar while subsidiary companies with a functional currency not in US dollars are subject primarily to changes in the exchange rate of foreign currencies, primarily the US dollar. As at December 31, 2022, the Company's sensitivity to a 5% strengthening (weakening) of the US dollar relative to the Canadian dollar and all other currencies for which the functional currency of the subsidiary company differs from the Canadian dollar would result in approximately $2,194 of pre-tax income (loss) to the consolidated statement of income (loss).

25. RELATED-PARTY TRANSACTIONS

These consolidated financial statements include the accounts of Quarterhill Inc. and its wholly owned subsidiaries. Balances and transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note. Transactions and balances with XPCT, a joint venture in China in which the Company's subsidiary IRD holds a 50% interest, which is also a related party, are disclosed in Note 11.

Key management personnel are Quarterhill Inc.'s President & Chief Executive Officer, Chief Financial Officer and Senior Vice-President, General Counsel & Corporate Secretary and the Chief Executive Officers of each of IRD, WiLAN and ETC. Other related parties are close family members of the key management personnel and entities controlled by key management personnel.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

25. RELATED-PARTY TRANSACTIONS (continued)

The executive compensation expense to the five key management personnel is as follows:

	Year ended December 31,	
	2022	2021
Salaries and benefits	**$2,219**	$4,485
Stock-based compensation	**975**	1,229
	$3,194	$5,714

26. CAPITAL MANAGEMENT

The Company's capital management objectives are to maintain financial flexibility in order to pursue its strategy of organic acquisitional growth, pay dividends, and, from time to time, return capital to shareholders, while maintaining an adequate return for shareholders. The Company defines its capital as cash, the aggregate of cash and cash equivalents, short-term investments, restricted short-term investments, long-term debt, convertible debentures and shareholders' equity.

	December 31, 2022	December 31, 2021
Current portion of long-term debt	**$29,292**	$3,181
Non-current portion of long-term debt	**-**	58,968
Convertible debentures	**48,379**	45,959
Long-term debt and convertible debentures, net of debt issuance costs	**77,671**	108,108
Less:		
Cash and cash equivalents	**(66,357)**	(70,746)
Short-term investments	**(1,550)**	(1,851)
Restricted short-term investments	**(6,529)**	(3,095)
Net debt	**3,235**	32,416
Shareholders' equity	**257,660**	241,116
Total capital management	**$338,566**	$381,640

The Company manages its capital structure in accordance with changes in economic conditions. To maintain or adjust its capital structure, the Company may purchase shares for cancellation pursuant to an NCIB or SIB, issue new shares, or raise or retire debt. In the current year, the Company took advantage of its surplus of cash by settling all of its bank indebtedness to reduce interest expense and maintain a healthy buffer for financial covenants. The Company is subject to covenants and restrictions related to its credit facilities as further described in Note 15, Long-term Debt.

(in thousands and in Canadian dollars, except share and per share amounts, unless otherwise stated)

27. CHANGES IN NON-CASH WORKING CAPITAL BALANCES

	Year ended December 31,	
	2022	2021
Accounts receivable	**$6,208**	($7,414)
Unbilled revenue	**(5,497)**	(10,785)
Income taxes receivable	**45**	(121)
Inventories	**60**	(5,210)
Prepaid expenses and deposits	**(2,420)**	(180)
Deferred revenue	**458**	3,258
Deferred compensation asset	**(180)**	(111)
Deferred compensation liability	**181**	(93)
Accounts payable and accrued liabilities	**5,055**	13,203
Income taxes payable	**282**	69
	$4,192	($7,384)

Supplemental Cash Flow Information

	Year ended December 31,	
	2022	2021
Net interest paid in cash, included in operations	**$1,839**	$84
Taxes paid	**$707**	$785

DIRECTORS

Roxanne Anderson (3)
Chair of the Audit Committee

Dr. Michel Tewfik Fattouche (1,4)

John Gillberry
Chair of the Board
Will not stand for re-election at the AGM on May 8, 2023

Rusty Lewis (1,2)
Chair of the Nominating Committee

James Skippen (1)
Vice-Chairperson of the Board
Will not stand for re-election at the AGM on May 8, 2023

Pamela Steer (3)

Kim Stevenson (2,4)
Chair of the ESG Committee
Will not stand for re-election at the AGM on May 8, 2023

Anna Tosto (3,4)

Member of (1) Compensation Committee, (2) Nominating Committee, (3) Audit Committee, (4) ESG Committee

On May 9, the Governance committee and ESG committee are to be combined.

NAMED EXECUTIVE OFFICERS

John Gillberry
Interim Chief Executive Officer

John Karnes
Chief Financial Officer

Prashant Watchmaker
Senior Vice President, General Counsel & Corporate Secretary

Kevin Holbert
President & Chief Executive Officer, Electronic Transaction Consultants

Rish Malhotra
President & Chief Executive Officer, International Road Dynamics Inc.

Andrew Parolin
President & Chief Executive Officer, WiLAN Inc.

STOCK EXCHANGE LISTINGS

Toronto Stock Exchange, Symbol: QTRH

OTCQX Best Market, Symbol: QTRHF

TRANSFER AGENT

Computershare Investor Services Inc.

PUBLIC FILINGS – SEDAR

Quarterhill's publicly filed documents are available at www.sedar.com

AUDITORS

EY Canada

INVESTOR RELATIONS

Dave Mason

Tel: 1.416.247.9652

ir@quarterhill.com

HEAD OFFICE

25 King Street West, Suite 1101

Toronto, ON Canada

M5L 2A1

WEBSITE

www.quarterhill.com

QUARTERHILL

25 King Street West, Suite 1101
Toronto, ON Canada M5L 2A1

www.quarterhill.com