

August 11, 2022

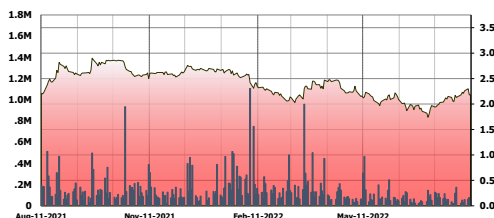
**QUARTERHILL INC. (QTRH-TSX, \$2.01)**

Rating: **BUY**  
New Target Price: **\$4.00**

**GROWING PAINS CONTINUE; STRONG LONG TERM OPPORTUNITY**

Old Target Price: **\$4.50**

Quarterhill Inc.		QTRH	
<i>(Currency is C\$ unless noted otherwise)</i>			
Last Price (\$)			\$2.01
Target Price (\$)			\$4.00
Return to Target			99%
52-Week Trading Range (\$)		\$1.72 /	\$2.98
Average Daily Volume (90-Day)			91.6K
MARKET INFO			
Shares Outstanding (M)			114.5
Market Capitalization (\$M)			\$230
Enterprise Value (\$M)			\$286
Dividend Yield			2.5%
FYE: DEC 31	F2021A	F2022E	F2023E
Revenue (\$M)	\$126	\$330	\$256
Gross Margin	30%	40%	37%
Net Income (\$M)	(\$22)	\$32	\$5
Diluted EPS (\$)	(\$0.19)	\$0.28	\$0.05
Adj. EBITDA (\$M)	\$5	\$76	\$38
VALUATION	F2021A	F2022E	F2023E
EV/Revenue	2.3x	0.9x	1.1x
EV/EBITDA	56.8x	3.8x	7.4x
RELATIVE VALUATION (EV/EBITDA)	F2021A	F2022E	F2023E
Patent Licensing/Assertion	9.3x	8.9x	8.7x
Global ITS	11.5x	9.8x	7.3x
DISCLOSURE CODE:	6		
<i>(Please refer to applicable disclosures on the back page)</i>			
Website: <a href="http://www.quarterhill.com/">http://www.quarterhill.com/</a>			
Source: M Partners, Capital IQ, Bloomberg, Company Documents			



Quarterhill operates in the intelligent transportation system (ITS) and intellectual property licensing industries worldwide. Its Licensing segment includes patents relating to memory interface technologies, semiconductor manufacturing and other technologies. The company's ITS segment provides integrated systems and solutions, such as automated truck weigh stations, toll road systems, traffic management and safety systems.

**This morning, Quarterhill reported Q2/22 financial results that missed our expectations.** The licensing business experienced regular lumpiness while the ITS business was impacted by supply chain issues and project delays. We remain bullish on QTRH for H2/22 given the potential WiLAN sale and improvements in the ITS business.

**Licensing:** Licensing revenue came in at \$4.6M vs. our estimate of \$11.6M and \$130.7M last quarter (due to the Apple win). Licensing EBITDA came in at -\$1.3M vs. our expectation of \$5.8M. QTRH had no updates regarding the WiLAN sale on today's conference call, but we remind readers that we value WiLAN using 10x 2023E EBITDA, equating to \$2.00/share. While the range of outcomes is wide, we think that any sale within a timely manner is beneficial to the QTRH story due to WiLAN's extreme lumpiness and QTRH's ability to deploy cash into growing ITS businesses at <10x EBITDA. Subsequent the quarter, WiLAN secured a license agreement with an automotive company for patents related to LTE and 5G technology used in vehicles.

**Intelligent Transportation Systems:** The ITS business posted \$39.2M in revenue vs. our estimate of \$45.7M. ITS EBITDA came in at -\$4.5M vs. our estimate of \$3.2M. Management highlighted that the decline was due to \$2M in timing issues, \$3M in supply chain delays, \$3.5M from a specific project adjustment and \$1M from out of period costs. While not all of these costs will fully reverse in H2, management indicated that the worst of the delays/issues are behind them and that the long-term opportunity for these projects will be highly lucrative as they reach a mature stage. On the conference call, CEO Bret Kidd reiterated that ITS is increasing pricing for new deals, the sales pipeline remains robust, win rates remain high and he expects to secure new contracts through H2/22. We are adjusting our expectations for the segment downward; we now expect ITS to retrace its Q4/21 revenue success in Q4/22. Management also outlined plans for \$3M in cost savings from integrating IRD and ETC and reiterated its target 15% EBITDA margin in 2-3 years.

During the quarter, IRD signed a four-year agreement with the Indiana Department of Transportation for C\$10.8M for system installation and civil work. Additionally, ETC signed a ten-year contract with the E-ZPass Interoperability Hub for US\$21.5M with a three-year extension option. Subsequent to the quarter, IRD was awarded a two-year \$13.8M contract with New York State for the installation and maintenance of permanent traffic data collection systems. We remain very encouraged by the contract activity from the ITS segment, signing \$232M in contracts over the LTM (Figure 2).

Additional highlights from the quarter include:

- Total revenue of \$43.9M vs. our expectations of \$57.3M and \$18.9M in the same quarter last year.
- Gross profit of \$5.8M (13% margin) vs. our expectation of \$20.4M (36% margin) and \$3.3M (18% margin) in Q2/21
- Adjusted EBITDA of -\$9.0M vs. our estimate of \$6.2M and -\$3.0M in Q2/21. This includes a \$3.1M loss from the corporate segment.
- Cash and equivalents of \$130M; Quarterhill collected its settlement from Apple during Q2 and paid down \$13.7M of long-term debt.

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**Our Thoughts:** Q2 was an underwhelming result for the ITS business given the delays and supply chain issues; as such, we are pushing forward our revenue growth expectations as guided by management. However, we are still bullish on ITS in the longer-term as its new projects come online and begin generating predictable EBITDA. QTRH's ITS business has now signed over \$230M in new contracts in the last twelve months (Figure 2); a key element in the QTRH story that we think has gone unnoticed by the market given the magnitude of the potential WiLAN sale. While today's results were disappointing, we think the stock remains highly undervalued and poor results like this are more than priced in given that the stock is trading at our WiLAN valuation alone.

Our blue-sky scenario for Quarterhill would result in over \$300M in cash on the balance sheet, which can be deployed at <10x EBITDA, adding \$30M+ in ITS EBITDA. We remain very encouraged by the development QTRH has made to transition to a pure play ITS company – new management team, board changes, WiLAN strategic review, signing additional ITS contracts. **We are maintaining our BUY recommendation and are revising our target price to \$4.00/share (previously \$4.50/share) based on a sum-of-the-parts valuation.**

Valuation - ITS		Valuation - Licensing	
2022E EBITDA Multiple	13.0x	2022E EBITDA Multiple	10.0x
Implied Enterprise Value:	353.4	Implied Enterprise Value:	232.5

Valuation - Quarterhill	
Consolidated Enterprise Value:	585.9
(-) Corporate Adjustment to EV (12x):	(148.0)
(+) Cash & Cash-Equivalents (including Apple):	121.4
(+) ST Investments:	8.2
(-) Total Debt:	(99.5)
Implied Equity Value:	467.9
Shares Outstanding:	114.5
<b>Target Price (rounded)</b>	<b>\$4.00</b>
<b>Upside (%)</b>	<b>99%</b>

Figure 1: SOTP Valuation

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Date	IRD/ETC	Region/Authority	Total Value (C\$M)	Initial Term	Annual Sales (\$CM)
24-Aug-21	IRD	Illinois	\$4.1	4 years	\$1.0
21-Sep-21	IRD	Idaho	\$2.2	N/A	N/A
26-Oct-21	IRD	Hawaii	\$2.0	N/A	N/A
17-Dec-21	ETC	Central Texas	\$93.6	6 years	\$15.6
31-Jan-22	ETC	Orange County	\$63.4	9 years	\$7.0
18-Feb-22	ETC	Alameda County	\$5.1	2 years	\$2.6
07-Mar-22	IRD	Indiana	\$5.5	4 years	\$1.4
18-Apr-22	ETC	TBTA	\$27.6	10 years	\$2.8
19-Apr-22	IRD	Indiana	\$10.8	4 years	\$2.7
11-May-22	IRD	Illinois	\$1.2	N/A	N/A
20-Jun-22	IRD	Idaho	\$2.2	N/A	N/A
25-Jul-22	IRD	New York State	\$13.8	2 years	\$6.9
<b>Total/Average</b>			<b>\$231.6</b>	<b>5.1 years</b>	<b>\$40.0</b>

Figure 2: ITS Contracts (LTM)

(C\$ Millions)											
Income Statement:	1Q21A	2Q21A	3Q21A	4Q21A	FY21	1Q22A	2Q22A	3Q22E	4Q22E	FY22	FY23
Licensing Revenue	7.8	1.8	11.4	4.7	25.7	130.7	4.6	11.6	11.6	158.6	46.5
ITS Revenue	11.5	17.1	24.9	46.5	100.0	37.8	39.2	44.9	49.4	171.4	209.1
<b>Total Revenue</b>	<b>19.3</b>	<b>18.9</b>	<b>36.3</b>	<b>51.2</b>	<b>125.7</b>	<b>168.5</b>	<b>43.9</b>	<b>56.6</b>	<b>61.1</b>	<b>330.0</b>	<b>255.6</b>
Licensing Gross Profit	2.0	(3.1)	6.1	(1.1)	3.9	82.0	(0.2)	6.7	6.7	95.4	27.0
ITS Gross Profit	4.6	6.4	9.3	13.2	33.5	10.6	6.0	9.0	12.4	38.0	66.9
<b>Total Gross Profit</b>	<b>6.6</b>	<b>3.3</b>	<b>15.4</b>	<b>12.1</b>	<b>37.4</b>	<b>92.7</b>	<b>5.8</b>	<b>15.7</b>	<b>19.1</b>	<b>133.3</b>	<b>93.9</b>
<i>Margin</i>	<i>34%</i>	<i>18%</i>	<i>42%</i>	<i>24%</i>	<i>30%</i>	<i>55%</i>	<i>13%</i>	<i>28%</i>	<i>31%</i>	<i>40%</i>	<i>37%</i>
Licensing EBITDA	1.2	(3.9)	5.4	(1.5)	1.2	81.0	(1.3)	5.8	5.8	91.3	23.3
ITS EBITDA	1.4	2.7	4.5	4.1	12.7	1.0	(4.5)	(0.9)	1.5	(2.9)	27.2
Corporate EBITDA	(3.0)	(1.9)	(2.3)	(1.7)	(8.8)	(2.9)	(3.1)	(3.1)	(3.3)	(12.3)	(12.0)
<b>Total EBITDA</b>	<b>(0.4)</b>	<b>(3.0)</b>	<b>7.6</b>	<b>0.9</b>	<b>5.0</b>	<b>79.1</b>	<b>(9.0)</b>	<b>1.8</b>	<b>4.0</b>	<b>76.0</b>	<b>38.4</b>
<i>Margin</i>	<i>(2%)</i>	<i>(16%)</i>	<i>21%</i>	<i>2%</i>	<i>4%</i>	<i>47%</i>	<i>(20%)</i>	<i>3%</i>	<i>7%</i>	<i>23%</i>	<i>15%</i>

Figure 3: Financial Projections

Disclosure Code: 6

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Buy:	Price expected to rise
Speculative Buy:	Buy rating with increased risk
Hold:	Properly priced
Sell:	Price is inflated and expected to decrease
Under Review (U/R):	Under review
Not Rated (N/R):	Not currently rated

Summary of Recommendations	
Buy	17
Speculative Buy	1
Hold	0
Sell	0
U/R	1
<b>Total</b>	<b>19</b>