FLYHT Aerospace Solutions Ltd

18 August 2022

FLY-V: $0.92, FLYLF-OTC: US$0.74

Bruce Krugel 416-509-5593

Price	$0.92	Market Cap	$35.7
Target Price	$2.70	Debt	$7.4
Projected Return	193%	Cash	-$3.3
52 Week Range	0.98/0.6	EV ($m's)	$39.8
Basic Shares O/S (000's)	38,782		
FD Shares O/S (000's)	41,104		
Insiders	5.0%		

Y/E December ($000's)	2020	2021	2022E	2023E
Revenues	13,653	11,319	27,263	38,675
EBITDA	(1,894)	(4,538)	1,350	3,615
EPS	-0.12	-0.16	0.00	0.06
EV/Sales	2.9x	3.5x	1.5x	1.0x
P/E	nmf	nmf	552.0x	15.5x

Profile

FLYHT Aerospace Solutions Ltd is a Canadian designer and developer of hardware and software for the aerospace industry. Its primary product, the Automated Flight Information Reporting System (AFIRS), and when qualified, supplemented with the AFIRS Edge, operates on multiple aircraft types and provides real-time streaming functions, such as safety services, voice and text messaging, data collection and transmission, as well as on-demand streaming of flight data recorder (black box), engine and airframe data. AFIRS data is transmitted via the Iridium satellite network to its UpTime ground-based server, which in turn routes the data to customer-specified end points and provides an interface for aircraft interaction.

Disclosure

Please refer to important disclosures on page 11.

SECOND STRONG QUARTER IN F2022 UNDERSCORES THE BENEFITS OF THE RECOVERY, CROSSCONSENSE ACQUISITION AND OEM LICENSING DEAL. UPCOMING INTRODUCTION OF EDGE DEVICE TO DRIVE SIGNIFICANT GROWTH IN 2023E. RAISE TARGET TO $2.70

- **Q2/22.** Revenues grew 66.8%, driven mainly by the inclusion of the CrossConsense acquisition for its first full quarter ($1.1m) and the initial contribution from the US$5.65m licensing deal ($1.4m). YoY revenue growth would have been 97.5% were it not for $900k of licensing revenues deferred until the first week of July.
- **Gross margin**. Gross margin improved to 55.8% from 52.4% LY due to sales mix: greater contribution from higher margin Licensing revenues in the current quarter.
- **EBITDA** was a loss of $906k and could have been -$141k if the $900k licensing revenues deferred until July were delivered in Q2.
- **Significant events.** Central to our view of significant revenue growth in F2023 due to initial sales of the Edge device is obtaining the STCs for various aircraft types. Progress is being made and we expect to hear updates in this regard ~Sept/Oct timeframe. Also, the UK Met Office has indicated to FLYHT that it will buy 30 WVSS units. If/when this contract is signed, it should contribute ~$3.0m in hardware sales in Q1-Q2/23. There are additional SaaS revenues expected from this contract.
- **New head of sales/Sales team.** FLYHT continues to upgrade and deepen its sales team in anticipation of the launch of the Edge device. On 11/8/22, FLYHT announced that effective 1/9/22 it had hired two additional salespeople from Teledyne, one of which was made new VP Sales and Marketing. The sales team now comprises ~8 employees, 6 of whom were hired during the past year.
- **BlueSky.** Consistent with our previous report, we provide an estimate of the size of the Edge device's addressable market. Given the new sales hires and the significance of its sales channels, we estimate, at the low end (10% penetration with SITA), that the Edge device could add $27m in hardware sales and consequently $6.5m p.a. in SaaS revenues.
- **Upcoming catalysts.** Announcement of Edge device STCs, initial Edge device contract(s), and a potential WVSS order. We expect to hear continued traction with regards to the AFIRS 228.
- **Valuation.** We forecast that FLYHT will finish F2022 with a strong Q3E and Q4E driven primarily by delivery against the balance of the OEM licensing contract (US$5.65m to be delivered in F2022) and a strong recovery in AFIRS 228 sales against the current backlog. This will result in FLYHT being cashflow positive for both quarters. This, combined with expected initial orders for the Edge device, we raise our target to $2.70 (from $2.50) due to an increase in our segmented valuation SaaS multiple to 6.5x (from 6.0x) reflecting our increased confidence in FLYHT's ability to execute.

Q2/22 results

Following on from Q1/22 where FLYHT reported 86.9% YoY revenue growth, Q2/22 continued this trend with YoY revenue growth of +66.8%.

Revenues

The CrossConsense acquisition contributed revenues of $1.1m in its first full quarter. Offsetting this benefit was ~$900k of licensing revenues which was deferred until the first week of July (Figure 1).

Figure 1: FLYHT Q2/22 revenues ($000's)

	Q2/22	Q2/21	% change	Explanation
SaaS	2,156	1,446	49.1%	First full quarter of CrossConsense revenues offset a 5.1% organic decline.
Hardware	913	1,404	-35.0%	12 AFIRS 228 units sold vs 24 LY
Licensing	1,400	8	nmf	Initial delivery against US$5.65m modem license order received 4/5/22
Services	413	68	509.1%	Growth driven by CrossConsense service revenue
Reported Total	**4,881**	**2,926**	**66.8%**	
License revenues	**900**			License revenues shipped in first week of Q3/22
Implied Total	**5,780**	**2,926**	**97.5%**	Potential revenues if modem licenses shipped in Q2/22

Source: Company reports; KRC Insights

SaaS revenues. SaaS revenues are billed on a per aircraft basis. The 49.1% YoY growth is all attributable to the addition of CrossConsense SaaS revenues acquisition which closed on 22 March 2022. Organically, SaaS revenues declined 5.1% as a result of a reduction in flight hours of certain customers due to a resurgence of COVID, in particular Middle East revenues declined 58.2%.

Hardware. AFIRS hardware sales in Q2/22 comprised 12 AFIRS units shipped vs 24 units shipped in Q2/21, the strongest quarter in F21 with Q2/21 comprising 44% of all AFIRS shipped in F21. This is not surprising as these sales are lumpy. Included in the quarter was the first installation in an ARJ-21 aircraft for China Express.

License revenues. License revenues are generated from direct installs of AFIRS 228S units on Airbus aircraft by L3Harris Technologies Inc. (LHX-N). This is the line fit cockpit Iridium, non-SATCOM communications option of choice for Airbus customers. Hence, Airbus deliveries of the A320, A330 and A220 influence these revenues and they do not generate SaaS revenues.

On 4/5/22, FLYHT announced that it had received a purchase order (PO) for US$5.65m for Iridium modems and license fees from its long-time OEM partner. The products are scheduled for delivery throughout the remainder of 2022, suggesting that License revenues could average ~$3.0m/quarter for each of the two remaining quarters of 2022.

Q2/22 Gross Margins

Gross margins were higher on a year over year basis due to sales mix (Figure 2).

Figure 2: FLYHT Q2/22 margins

	Q2/22	Q2/21	Explanation
Gross margin	55.8%	52.4%	The benefit of higher margin licensing revenues

Source: Company reports; KRC Insights

Gross margins are a function of sales mix with the two largest swing factors in a quarter being the mix between lower margin hardware (AFIRS, FlightLink /TAMDAR units) and License revenues at >85% GM. In Q2/22 License revenues comprised 29% of total revenues vs 0% in Q2/21.

Q2/22 Expenses

Expenses increased primarily due to the consolidation of the CrossConsense acquisition. (Figure 3).

Figure 3: FLYHT Q2/22 expenses ($000's)

	Q2/22	Q2/21	Explanation
Distribution expenses	1,339	896	Increase due to CrossConsense acquisition and slightly higher headcount
Administrative expenses	1,362	741	Increase due to CrossConsense acquisition and higher one-time contractor costs (exploring US listing and US govt grants) and travel.
R&D	1,046	1,049	Increase offset by resumption of Canadian govt grant
Total expenses	3,748	2,686	+39.5%
Benefit of grants included above	681	609	
Gross expenses	4,429	3,295	+34.4%

Source: Company reports; KRC Insights

Q2/22 EBITDA

The net impact of the above (sales, margins and expenses) resulted in an EBITDA loss of -$906k. Had the $900k of license revenues shipped in Q2, EBITDA loss would potentially have been $141k.

Balance Sheet

Cash balances were $2.4m at the end of Q2/22 vs $4.5m at the end of Q4/21. The primary contributors to the cash decline was the $1.25m cash component of the CrossConsense acquisition and the operating loss.

Total debt is shown in Figure 4:

Figure 4: FLYHT total debt at Q2/22 ($000's)

	Short term	Long term	Total
Loans and borrowings	688	4,060	4,748
Lease liability	363	2,332	2,695
	1,051	6,392	7,443

Source: Company reports, KRC Insights

At 10/8/22, FLYHT had 41.1m FD shares outstanding (Figure 5), **down from 43.3m at the end of Q1/22 due to the expiration of 2.7m warrants on 15/6/22.**

Figure 5: Fully diluted number of shares

	Shares	Options	FD Total
At 10/8/22	38,782	2,322	41,104

Source: Company reports, KRC Insights

Backlog is currently just over $28m.

Significant developments

FLYHT continues to strengthen its position for F2023. In the main, we focus on two related developments which we believe will be central to the strong revenue growth forecast for that year, as well as a third opportunity.

The two related developments:

- **AFIRS Edge (Edge) device**: We continue to believe that this device, subject to Supplemental Type Certificates (STC) certification, will be a company maker for FLYHT. Refer to Appendix I: AFIRS Edge for more detail on this product. Development for the A320 (via Coral Jet[1]) and a Calgary-based airline for the B737 is undergoing final testing and certification with first run Edge devices. We believe that the first implementation of the Edge, through Coral Jet, will be completed by the end of Q3/October. FLYHT has launch customers for at least 4 aircraft types. Additionally, FLYHT has demonstrated the units in Japan and Indonesia to 15 airlines.
- **Increasing quality/depth of sales team**: On 11/8/22, FLYHT announced the hiring of two additional salespeople effective 1/9/22, both from competitor, Teledyne Technologies Inc. (TDY-N). Scott Chambers will become VP Sales and Marketing (replacing Derek Taylor who transitions to VP Strategic Opportunities) and Murray Skelton who will become VP Business Development. These hires results in

[1] Refer to press release of 31/5/22

three Teledyne salespeople having now joined FLYHT and the sales team has increased to ~8 employees with 6 having been hired in the past year. FLYHT now has sales staff in Japan, Indonesia, Europe, North America and covers South America from New York.

The third significant development was the intention by the UK Met Office to acquire 30 WVSS devices. Refer to Appendix IV: Water Vapor Sensing System (WVSS-II) for product details. The UK Met Office and FLYHT have identified UK-based Loganair for initial deployment. The devices will be deployed on Loganair's 13 existing Embraer ERJ-145s subject to the STC. UK Met will find an airline(s) for the remaining 17 devices. Subject to contract completion, management estimates the Logainair portion to be worth ~$2.5m for the hardware alone with installation in Q1/23 or Q2/23. SaaS revenue will come in addition. A press release announcing the deal will be issued when contract details have been concluded.

Forecasts/Estimate Changes

In our Q1/22 report, we raised our F2022E revenue forecasts to $27.2m from $24.4m to account for the stronger Q1/22 results and the US$5.65m OEM license order. Our **revenue forecasts for both F2022E and F2023E remain unchanged along with the view that F2023 is the transformational year for FLYHT**.

A summary of our view of the principal drivers by revenue segment is given as:

SaaS. The benefit of adding $3.0m in acquisition-related CrossConsense revenues ($1.0m/quarter effective from Q2/22) is reduced by the unexpected continued COVID constraints, and concomitant flight restrictions, impacting China and the Pac Rim (Indonesia). Hence, we are forecasting a slower recovery in this geographic region than previously. A stronger/faster recovery by AirAsia, would drive a faster/stronger recovery in weather related SaaS revenues, and represents upside potential to our forecasts.

Hardware. Our increased forecasts are driven by a stronger than anticipated recovery in international travel (as reflected in the Q2/22 results), combined with the expectation that FLYHT will land certain large orders currently in its order book for the AFIRS228. However, the most significant driver of increased hardware sales is initial deployments in 2023 of the yet-to-be-certified Edge device. Courtesy of its new, significantly expanded sales channels (SITA, AWS and MBS) FLYHT is already presenting the Edge to potential clients.

Licensing. Revenues from this source are a function of the proportion of new aircraft production selecting SATCOM cockpit connectivity. FLYHT has benefitted from the consistent sales of Airbus A320 and A330 aircraft, and more recently the ramp of the Airbus A220. While the 4/5/22 US$5.65m order from its OEM partner has a significant, positive impact on 2022E forecasts, this order also comprises orders for 2023E suggesting that there may be a pause in License revenues for 2023E. We have adjusted our estimates accordingly.

Technical Service revenues, while small, are an important indicator of future business. These revenues are typically generated when a customer requires an AFIRS or FlightLink/TAMDAR installation on a new aircraft type. Hence, the receipt of Technical Service revenues is indicative of the fact that the customization work is underway/complete, and that hardware deployment/installation could commence (i.e. is a leading indicator of future business). Also, CrossConsense has a component of Technical Services revenues. Accordingly, we expect growth in 2022E due to Edge, WVSS-II deployments and CrossConsense data migration projects, but will revert to lower levels in 2023E.

EBITDA. The higher sales drives our increased EBITDA forecasts for 2023E. However, we also had to adjust for the expected loss of the higher margin Licensing revenues (~85% GM).

Bluesky

Consistent with our Q1/22 report, we include a back-of-envelope calculation of the bluesky opportunity in front of FLYHT (Figure 6).

While a portion of this is included in our F2023E revenue forecasts, we found the exercise helpful in quantifying an estimated size of the revenue potential which would flow through into F2024E and beyond. Additionally, there are a number of trends within this macro view that FLYHT is targeting with its AFIRS Edge device. Hence, we have high expectations for adoption.

Specific trends that FLYHT is targeting with the Edge device include:

- Communication changes – 3G to 5G, Iridium Block 1 (being shut down, satellites decommissioned) to Iridium Certus. FLYHT is now a reseller of SITA's AIRCOM® Cockpit Services
- Climate change – track emissions, weather, fleet monitoring
- Actionable intelligence – including Aircraft Health Monitoring, APU Management, Fuel Management, Real-Time Fleet Management, Turn Management and Predictive Maintenance

Refer to Appendix I: AFIRS Edge for an overview of the product and its markets of WQAR Replacement, Edge Computing (Actionable Intelligence), Flight Deck Enabler and Data uploader.

In addition to its expanded sales force, FLYHT has access to 3 significant sales channels for sale of the AFIRS Edge it did not have with the legacy AFIRS 228 device. Specifically,

- SITA, reseller agreement, refer to Appendix II: SITA
- Amazon Web Services, refer to Appendix III: AWS Travel and Hospitality Competency Partners, and
- MBS partnership, refer press release of 3/5/22

Our sensitivity analysis provides revenue estimates for both the hardware and annual recurring SaaS revenue based on a 10% penetration of both SITA and the total addressable market (TAM) of aircraft (Figure 6) based on the following:

- SITA – 400 customers, 18,000 aircraft supported,
- Total addressable market of 35,000 aircraft units at a cost of $1.0bn

Figure 6: AFIRS Edge device sensitivity analysis

		SITA	TAM
Customer base	Aircraft	18,000	35,000
Penetration		10%	10%
Potential revenues:			
Hardware	$000s	$27,000	$52,500
Recurring revenues p.a.*	$000s	$6,480	$12,600

Source: KRC Insights *=Using base case only. Significant upsell opportunity exists

Our expectation is that FLYHT will achieve a market penetration between SITA and the TAM scenarios. Using the low end, we believe that FLYHT could initially generate $27.0m in hardware sales and thereby achieve at least $6.5m p.a. in SaaS revenues.

Forecasts

In Figure 7 we provide an overview of our revenue forecasts:

Figure 7: FLYHT revenue forecasts (C$000's)

		Notes	2022E	2023E
Base run rate		1	14,000	19,000
Add:	Acquisition	2	3,000	
	Weather	3	1,000	1,000
	WVSS	4	-	3,000
	C919	5	1,000	2,000
	OEM licensing	6	7,400	
	New business	7	863	13,675
Current estimate			27,263	38,675
Elephants		8	3,000	10,000
Bluesky estimate			30,263	48,675

Source: KRC Insights

Notes to revenue forecasts:

1. FLYHT's base run rate post COVID based on Q2/22 revenues; 2023E represents continued recovery and includes CrossConsense contribution.
2. CrossConsense acquisition, KRC Insights estimate of annual revenue run rate.
3. Weather recovery (TAMDAR) as AirAsia resumes flights, hence soundings.
4. WVSS (weather) potential hardware order in 2022 from UK Met Office with a 2023E install. Associated initial SaaS revenue contributions are in addition.
5. C919 is expected to ramp to 6 units for 2022E, for 2023E, we forecast a ramp to 12 units on its way to 100 units p.a.
6. Licensing revenues due to the 4/5/22 US$5.65m order.
7. KRC Insights estimate of new business, covered in part under the Bluesky section above but primarily driven by the contribution from the Edge device. Recall, the company also has an existing $28.0m order book. On the Q2/22 conference call management stated that it believes that "over the next 2 to 3 quarters, Edge units will far exceed the number of AFIRS units…and shortly the revenue from the Edge units will exceed revenue from the AFIRS units".
8. Elephants represent potential contributions from certain large orders included in FLYHT order book and hence shows potential revenue upside to our forecasts if/when landed.

Valuation

The remaining portion of the US$5.65m OEM licensing order is expected to accrue evenly over the last 2 quarters of F2022E and be a significant contributor to sequentially improving revenues and profitability, and thereby for the full 2022E.

We raise our target price to $2.70 (from $2.50), using a sum of parts approach (Figure 8), to reflect our increased confidence with regards to product positioning (Edge device) and potential to execute (new salespeople and expanded sales channels):

- **SaaS.** We have consistently applied a SaaS EV/revenue multiple of 6.0x, which has typically been a discount to our SaaS reference group, currently trading at 6.6x in Canada and 7.8x in the US (Figure 9). The US group comprises companies with a market capitalization of between US$2bn and US$10bn with revenue growing by at least 50% over the last two years[2]. However, we now **raise our multiple to 6.5x** to reflect our increased confidence in FLYHT's ability to execute due to imminent product introduction and expanded sales team and sales channels.
- **Hardware and licensing**. Applying a 1x revenues multiple to both hardware and licensing revenues.

Figure 8: FLYHT valuation. Sum of parts (000's), EV/2023E Sales

	2023E	Multiple	Value
	$000s		$000s
Saas Revenues	14,816	6.5x	96,304
Hardware	23,439	1.0x	23,439
Licensing fees		1.0x	-
Enterprise value			119,743
Debt			(7,443)
Cash			3,327
Equity			115,627
FD # shares (Figure 5)			41,104
Price/share			2.65
Rounded			**2.70**

Source: KRC Insights

FLYHT is currently trading at 1.03x our 2023E revenue forecasts (Figure 9). The opportunity for investors is to benefit from multiple expansion as FLYHT delivers against our forecasts, which would be evidence of its ability to accelerate both hardware deployments (AFIRS, Edge and weather devices) and associated SaaS revenues.

We note, by reference to Appendix V: FLYHT share price relative performance (past 6 months), that the FLYHT share price has begun to outperform both the airlines and air framers.

[2] https://dashboards.trefis.com/data/companies/THEMES/no-login-required/qiNEy122/Mid-Cap-SaaS-Stocks-Average-Portfolio-Return-of-108-Since-12-31-2017-vs-39-for-S-P-500-as-of-12-30-2020-?fromforbesandarticle=trefis210929

Figure 9: Software as a Service (SaaS) companies ($m's where applicable, pricing at 17/8/22)

					EBITDA		Revenues		Rev	EV/Revenues	
	Symbol	Price	Mkt Cap	EV	2021A	2023E	2021A	2023E	Growth	2021A	2023E
FLYHT Aerospace Solutions Ltd	**FLY.V**	**$0.92**		**$39.8**	**-$4.54**	**$3.62**	**$11.3**	**$38.7**	**241.7%**	**3.52x**	**1.03x**
TSX (C$)											
Computer Modelling Group Ltd	CMG.TO	$4.63	$372	$356	$29	$31	$66	$71	7.2%	5.4x	5.0x
Constellation Software Inc	CSU.TO	$2,175.00	$46,092	$47,679	$1,889	$2,681	$6,451	$9,970	54.6%	7.4x	4.8x
Descartes Systems Group Inc	DSG.TO	$92.51	$7,883	$7,609	$208	$300	$532	$680	27.9%	14.3x	11.2x
Kinaxis Inc	KXS.TO	$164.42	$4,562	$4,307	$18	$95	$317	$529	67.0%	13.6x	8.1x
Open Text Corp	OTEX.TO	$50.71	$13,752	$17,014	$1,552	$1,719	$4,347	$4,656	7.1%	3.9x	3.7x
Shopify Inc	SHOP.TO	$48.13	$60,808	$53,007	$461	$35	$5,827	$8,621	48.0%	9.1x	6.1x
Average							**$11,713**	**$15,907**	**35.8%**	**8.9x**	**6.6x**
US-Select SaaS companies											
Coupa Software Inc	COUP.O	$70.46	$5,323	$6,711	-$95	$145	$710	$993	39.9%	9.5x	6.8x
Instructure Holdings Inc	INST.K	$24.40	$3,463	$3,872	$115	$195	$405	$521	28.4%	9.6x	7.4x
Asana Inc	ASAN.K	$25.25	$4,804.0	$4,556.1	-$248.14	-$232.02	$365.8	$685.0	87.2%	12.5x	6.7x
Tenable Holdings Inc	TENB.O	$42.42	$4,736	$4,591	-$19	$94	$541	$816	50.7%	8.5x	5.6x
Veeva Systems Inc	VEEV.K	$225.12	$34,859	$32,021	$522	$989	$1,819	$2,507	37.9%	17.6x	12.8x
Black Knight Inc	BKI	$68.26	$10,650	$13,430	$647	$855	$1,475	$1,712	16.0%	9.1x	7.8x
PagerDuty Inc	PD	$27.15	$2,385	$2,199	-$89	$14	$276	$451	63.6%	8.0x	4.9x
Varonis Systems Inc	VRNS.O	$29.88	$3,284	$2,743	-$88	$69	$390	$592	51.8%	7.0x	4.6x
Elastic NV	ESTC.K	$80.60	$7,645.5	$7,351.1	-$134.95	$73.53	$777.7	$1,302.7	67.5%	9.5x	5.6x
Avalara Inc	AVLR.K	$91.85	$8,107	$7,610	-$80	$32	$699	$1,049	50.0%	10.9x	7.3x
Smartsheet Inc	SMAR.K	$36.40	$4,712	$4,265	-$136	-$22	$537	$972	81.0%	7.9x	4.4x
Average							**$3,841**	**$5,522**	**43.8%**	**11.5x**	**7.8x**

Source: Refinitiv Eikon, KRC Insights, All estimates are for calendar years

Figure 10: FLYHT historical and forecast income statement ($000s)

Dec year-end	$000's	2019	2020	2021	Q1/22	Q2/22	Q3/22E	Q4/22E	2022E	2023E
SaaS		10,222	7,323	5,994	1,675	2,156	2,349	2,554	8,734	14,816
% growth		84.9%	-28.4%	-18.2%	8.8%	49.1%	55.8%	74.1%	45.7%	69.6%
Hardware		6,652	2,306	3,394	2,110	913	2,582	3,240	8,845	23,439
% growth		20.1%	-65.3%	47.2%	153.6%	-35.0%	355.1%	448.3%	160.6%	165.0%
Parts sales/Licensing		3,241	3,631	1,551	1,135	1,400	3,000	2,950	8,485	
% growth		43.1%	12.0%	-57.3%	522.8%	17566.6%	198.6%	728.2%	447.0%	-100.0%
Services		1,032	393	380	111	413	400	276	1,200	420
% growth		297.2%	-61.9%	-3.2%	-19.1%	509.1%	325.9%	241.9%	215.8%	-65.0%
Revenues		21,147	13,653	11,319	5,031	6,158	8,349	8,037	27,263	38,675
Total revenue growth		55.6%	-35.4%	-17.1%	86.9%	110.4%	163.1%	222.1%	143.6%	40.3%
Cost of revenue		(8,844)	(4,396)	(4,849)	(2,363)	(2,156)	(3,532)	(3,456)	(11,508)	(18,451)
Gross profit		12,302	9,257	6,470	2,667	2,725	4,799	5,564	15,755	20,224
Distribution Expenses		(8,296)	(5,392)	(3,870)	(1,380)	(1,340)	(1,316)	(1,363)	(5,398)	(6,500)
Administration Expenses		(4,214)	(4,057)	(3,384)	(1,312)	(1,362)	(1,316)	(1,457)	(5,447)	(6,575)
R&D		(3,770)	(3,338)	(4,447)	(1,165)	(1,046)	(987)	(1,082)	(4,280)	(4,254)
Total costs		(16,279)	(12,787)	(11,701)	(3,857)	(3,748)	(3,619)	(3,902)	(15,125)	(17,329)
Operating income		(3,977)	(3,530)	(5,231)	(1,106)	(1,023)	1,180	1,579	630	2,895
Interest and other income		30	465	104	2	63	2	2	70	20
Forex, Interest paid, convertible debt		(951)	(978)	(732)	(181)	(155)	(165)	(160)	(661)	(660)
Other/PWS subsidy		4,127	807							
Net income before taxation		(771)	(3,236)	(5,859)	(1,284)	(1,114)	1,017	1,421	39	2,255
Taxation		0	(1)	0	0	(27)	(22)	70	22	(90)
Net income		(771)	(3,237)	(5,859)	(1,284)	(1,141)	995	1,491	61	2,165
EPS - Basic		($ 0.04)	($ 0.12)	($ 0.16)	($ 0.03)	($ 0.00)	$ 0.03	$ 0.04	$ 0.00	$ 0.06
EPS - FD		($ 0.04)	($ 0.12)	($ 0.16)	($ 0.03)	($ 0.00)	$ 0.03	$ 0.04	$ 0.00	$ 0.06
		2019	**2020**	**2021**	**Q2/22**	**Q2/22**	**Q3/22E**	**Q4/22E**	**2022E**	**2023E**
Gross profit	%	58.2	67.8	57.2	54.7	55.8	57.6	60.8	57.8	52.3
Operating margin	%	(18.8)	(25.9)	(46.2)	(22.0)	(20.9)	14.2	17.5	2.3	7.5
EBITDA	$000's	984	(1,894)	(4,538)	(938)	(906)	1,360	1,834	1,350	3,615
EBITDA margin	%	4.7%	-13.9	-40.1	-18.6	-18.6	16.3	20.3	5.0	9.3
Effective tax rate	%		(0.0)	0.0		(2.4)	2.1	(4.9)	(55.0)	4.0
Net margin	%	(3.6)	(23.7)	(51.8)	(25.5)	(23.4)	11.9	16.5	0.2	5.6

Source: Company reports, KRC Insights

Appendix I: AFIRS Edge

FLYHT's AFIRS Edge solves 2G/3G obsolescence – it is FLYHT's next generation 5G (3G/4G/LTE compatible) Wireless Quick Access Recorder (WQAR), Aircraft Interface Device (AID) and edge computing platform.

It is expected to be available to FLYHT customers in late 2022.

The Edge device:

- Provides ground network access (3G/4G/5G)
- Has Aircraft Interface Device (AID) functions
- Is Iridium Certus capable
- Provides onboard IoT data via bluetooth
- Enables legacy aircraft data to be sourced
- Reuses existing FLYHT avionics software, and
- The prototype build is complete, Bringup is in progress

Figure 11: AFIRS Edge device

Source: FLYHT

AFIRS Edge is targeting 4 discrete markets:

- **WQAR replacement** - 2G/3G connectivity being retired. AFIRS Edge™ is engineered and designed as a multi-channel WQAR with LTE/4G and 5G network availability. It also allows simultaneous DAR and QAR recording.
- **Edge Computing** - AFIRS Edge™ serves as an Internet of Things (IoT) gateway on the aircraft and can support new IoT sensor technologies as they are deployed. Primary focus is its application for Actionable Intelligence, enabling predictive and proactive operations in real-time.
- **Flight Deck Enabler** – As an Enhanced Aircraft Interface Device (AID), it enables enhanced EFB applications.
- **Uploader** - wireless avionics software and onboard data loading solution.

Appendix II: SITA reseller agreement

On 2 February 2022, FLYHT announced a reseller agreement with SITA for its AIRCOM® Cockpit Services. This is a significant announcement in that the AFIRS Edge device (when certified) could provide connectivity via the Iridium Certus network to the SITA network. To draw a cell phone analogy, FLYHT will provide the phone (AFIRS Edge), Iridium Certus the network backhaul (Iridium Certus) and SITA the cell phone towers, connectivity and services (AIRCOM® Cockpit Services).

FLYHT shared in the press that it "looks forward to closer collaboration as our Actionable Intelligence tools roll out to integrate our capabilities with SITA's many offerings to their customers. FLYHT is developing tools for our customers to reduce turn times, increase fuel efficiency and reduce emissions, and partners like SITA will help accelerate that growth." SITA is quoted as saying the "AFIRS Edge is a state-of-the-art solution that gives aviation customers real-time access to the latest satellite and cellular connectivity. We look forward to further developing this relationship".

We interpret these quotes as suggesting that this is the start of deeper relations between the two companies: FLYHT selling access (hardware) and services (Actionable Intelligence), allowing SITA deeper penetration into its existing clients and the opportunity to source new clients. We expect to hear more from the FLYHT/SITA relationship once the AFIRS Edge is STC certified.

Who/what is SITA?

SITA is the world leader in air transport communications and information technology. In 2020, it generated US$1.34bn in revenues, down 27% from the year prior due to the impact of COVID. Its operating divisions are: SITA for Aircraft, SITA at Airports and SITA at Borders. In aggregate, it has 2,500 customers in over 200 countries, services 18,000 aircraft and has 4,700 employees.

We focus on the Aircraft division, which specifically targets the connected aircraft, digital day of operations, aircraft data management, cabin connectivity services and unified aircraft communications.

SITA's Unified Aircraft Communications involves 2,000 VHF/VDL[3] stations globally and 18,000 aircraft from 250 carriers. Its AIRCOM® Cockpit Services (part of the reseller agreement with FLYHT) allows airlines to communicate wirelessly between their aircraft and ground systems, as well as between their aircraft and third parties operating on the ground - such as Air Traffic Control. Its website states that it is "powering a digital shift that will reinvent the operations of aircraft, flight and on-board experience…". The FLYHT AFIRS Edge device is part of this strategy.

SITA's major competitor in the Aircraft division is Rockwell Collins' ARINC. These two organizations are the primary worldwide providers of aircraft connectivity by VHF or satellite.

Impact on FLYHT

FLYHT's reseller agreement with SITA, which couples its Edge device with SITA's AIRCOM® Cockpit Services, provides FLYHT with initially the ability to sell a "basic" service that can be used later to upsell its Actionable

[3] Very High Frequency (VHF) and VHF Data Link (VDL)

Intelligence suite of services. It also allows FLYHT access to or to respond to referrals from SITA's extensive network of airline clients. Commentary in the press release states that this relationship is to be developed further.

Appendix III: AWS Travel and Hospitality Competency Partners

In order to provide context for FLYHT's Amazon Web Services (AWS) certification, we provide a description of what the AWS Competency Program envisages:

The AWS Competency Program is designed to identify, validate, and promote AWS Partners with demonstrated AWS technical expertise and proven customer success in specialized areas across industries, use cases, and workloads. Guidance from these skilled professionals can lead to better business and bigger results.[4]

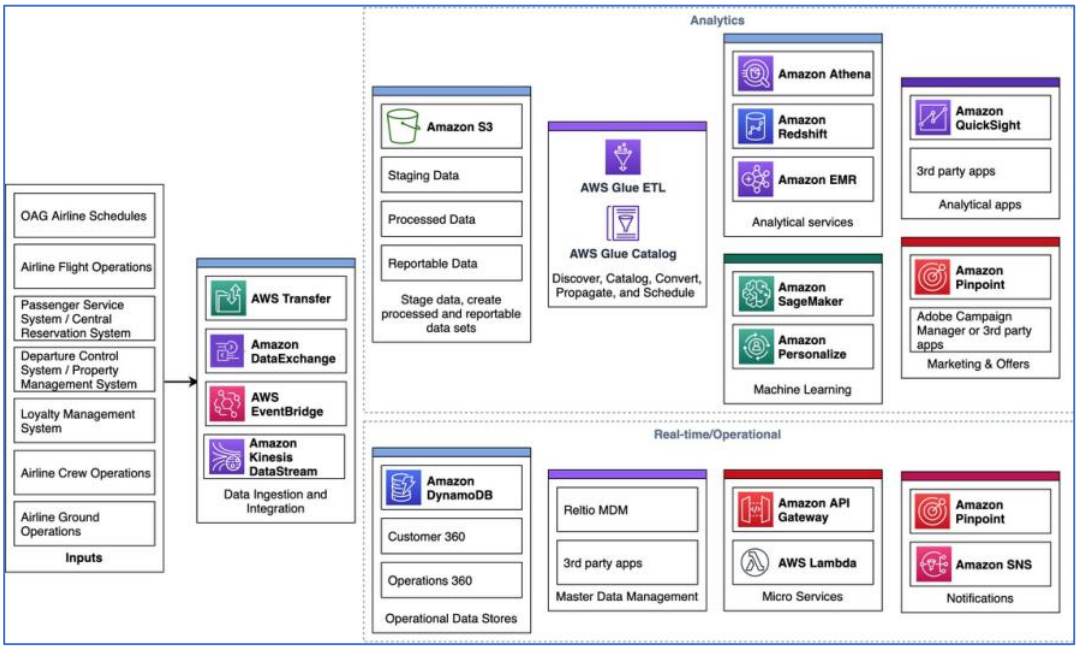
Specifically, as this pertains to FLYHT, we quote from the AWS representative in the FLYHT press release: "FLYHT's connectivity and operational efficiency solutions, powered by AWS, can help our customers transform their business by maintaining complete operational visibility to their critical aviation assets and people."

Also, AWS describes FLYHT's competency as: Advanced - Cloud based system to receive, verify, parse, store, and report on information transmitted from aircraft, through satellite networks, to the ground.[5]

AWS airline customers include: Star Alliance (world's largest airline alliance), Southwest Airlines, United Airlines, Japan Airlines, Korean Air, Qantas, Ryanair, Copa Airlines, All Nippon Airways, Emirates Group, LOT Polish Airlines, the TUI Group and Porter Airlines.

A schematic of what is involved in AWS partnership capabilities is shown in Figure 12.

Figure 12: AWS Personalization using AI/ML for Airlines & Lodging



Source: https://aws.amazon.com/travel-and-hospitality/personalization/?nc=sn&loc=2&dn=1

FLYHT describes its UpTime Cloud service (its main AWS offering) in the context of Figure 12 as follows:

[4] https://aws.amazon.com/blogs/apn/say-hello-to-61-new-aws-competency-service-delivery-service-ready-and-msp-partners-added-in-january/

[5] https://partners.amazonaws.com/partners/0010h00001hfV3QAAU/

Utilizing AWS' Data 360 services, FLYHT maintains low operational costs which are then passed on to the customer. FLYHT's Uptime Cloud ground application is an AWS hosted application utilizing Amazon VPC, Amazon EC2, Amazon Route 53, Amazon GuardDuty, Amazon CloudWatch, Amazon Simple Queue Service (SQS), Amazon Simple Storage Service (S3), Amazon Simple Email Service (SES) and Amazon RDS services.[6]

In other words, FLYHT's UpTime Cloud service is validated on the AWS platform and uses the AWS real time and analytic processing power to support its Actionable Intelligence offerings.

Impact on FLYHT

We view FLYHT's achievement as an AWS Travel and Hospitality Competency Partner as an important technological step forward in rolling out its Actionable Intelligence service offerings. We also believe that this competency and its scalability and security will sit well with potentially larger airlines and consequently, FLYHT will benefit from referrals from airline customers within AWS's Travel and Competency Partner network.

[6] https://flyht.com/uptime-cloud/?did=pa_card&trk=pa_card

Appendix IV: Water Vapor Sensing System (WVSS-II)

On 20/9/21, FLYHT announced the acquisition of Water Vapor Sensing System ("WVSS-II") product line from SpectraSensors Inc. for US$500k cash.

The acquisition includes manufacturing assets, inventory, aviation-specific intellectual property, and a license to SpectraSensors®' Tunable Diode Laser Absorption Spectroscopy ("TDLAS") technology for use in the weather and aviation markets. FLYHT has prepared 1,800ft^2 of manufacturing space at its Calgary headquarters to accommodate the sensor manufacturing equipment purchased from SpectraSensor.

No revenues are attached to the acquisition, however, a potential order from the UK's Met Office and transition away from Rockwell Collins as the service provider for the existing installs will positively impact FLYHT revenues starting 2022 (covered in more detail below).

Atmospheric water vapor measurements from commercial aircraft are now available to complement the real-time winds and temperatures available from the Aircraft Communication, Addressing and Reporting System (ACARS). The WVSS-II:

- Is a sensor installed on commercial aircraft,
- Provides upper air meteorological water vapour measurements in near real-time throughout an aircraft's flight,
- Data, when combined with the atmospheric data on the aircraft, results in a complete weather sounding (temperature, wind, moisture) and consequently directly benefit weather forecasting and improve weather support to aviation,
- Is cheaper than radiosondes[7], and
- Is extremely reliable, accurate and accepted by the World Meteorological Organization (WMO).

Deployment of the WVSS device is shown in Figure 13.

Figure 13: WVSS II

Source: FLYHT

[7] an instrument carried by balloon or other means to various levels of the atmosphere and transmitting measurements by radio.

The WVSS-II product will enhance FLYHT's weather business by adding additional hardware, integration and recurring revenue sources to its existing Tropospheric Airborne Meteorological Data Reporting (TAMDAR™) and Aircraft Meteorological Data Relay (AMDAR) programs.

The WVSS-II will be fully integrated with FLYHT's AFIRS and EDGE products to provide real-time aircraft-based observations into FLYHT's software products.

Background

Water vapor measurement has long been the meteorologist's missing forecast element. Wind and temperature measurements are routinely made for weather forecasting, but water vapor measurement does not occur as regularly. The US' National Oceanic and Atmospheric Administration (NOAA) weather balloons are launched only twice daily to measure water vapor, and at less than 100 sites in the United States. Consequently, in only a couple of hours, sudden atmospheric instability induced by water vapor can make the data collected by these balloons unusable.

Hence, aircraft-based observations (ABO) are increasingly providing soundings at locations and times when weather balloon information is not available.

To date, WVSS-II sensors have been deployed on 139 aircraft in the USA, under partnership with Collins Aerospace Systems, United Parcel Service (UPS) airlines, and Southwest Airlines (~111 aircraft). In Europe, nine aircraft have been equipped with WVSS-II under partnership with Lufthansa Technik and Lufthansa Airlines.[8]

WMO is satisfied that these results, and the stability and reliability of the development and manufacturing programme of the supplier (backed by the support of the FAA and NOAA) provides confidence to continue with a programme of global sensor deployment, with the cooperation of airlines and the aviation industry.[9]

Impact on FLYHT

The WVSS-II product will enhance FLYHT's existing weather business by adding additional hardware, integration and eventually recurring revenue sources to its existing Tropospheric Airborne Meteorological Data Reporting (TAMDAR) and Aircraft Meteorological Data Relay programs.

FLYHT already has exposure to aircraft weather via its TAMDAR system. TAMDAR equipped planes fly into nearly 200 airports (COVID permitting) across the globe, with high density across the United States, Mexico and Asia. With this extensive installation base, the sensor collects thousands of highly detailed and accurate readings from the upper atmosphere each day measuring:

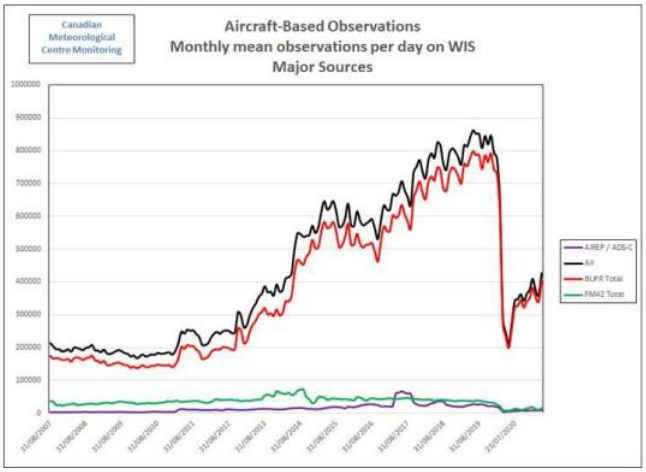
- Ice presence
- Static pressure and pressure altitude
- Air temperature (Mach corrected)
- Variable sampling rate
- Relative humidity
- Indicated and true airspeed
- Winds aloft
- GPS position and time

[8] World Meteorological Organization, The Benefits of AMDAR Data to Meteorology and Aviation, Technical Report 2021-1, p75
[9] World Meteorological Organization, The Benefits of AMDAR Data to Meteorology and Aviation, Technical Report 2021-1, p75

Below, we include selected extracts from WMO Aircraft-Based Observations Newsletter (Volume 21, April 2021) [10] which highlight several points as they pertain to FLYHT.

Aircraft-based observations (ABO) have decreased as appropriately equipped aircraft were grounded due to COVID-related flight restrictions.

Figure 14: ABO monthly mean observations/day



Source: https://community.wmo.int/activity-areas/aircraft-based-observations/newsletter/volume-21#article-9

FLYHT's weather data revenue is derived primarily from AirAsia, which has declined as well. FLYHT's weather revenues are included in its SaaS revenues which showed a 22% decline YoY in Q3/21 YTD.

However, the strategic importance of the WVSS acquisition cannot be appreciated without understanding that there are currently only three sources of ABO (AMDAR[11], WVSS and TAMDAR), and FLYHT now owns two of these sources (WVSS and TAMDAR) with WVSS and TAMDAR being the only sources of relative humidity.

There are only 148 aircraft worldwide that contribute to water vapour measurements (Figure 15). The two largest contributors to the North American number is Southwest Airlines and United Parcel Services (UPS). Rockwell Collins derives the revenues from these installs.

Figure 15: WVSs-II installs for ABO

Operational WVSS-II Units in Service to ABOP, by WMO Region

Region:	Africa	Asia	So. America	No. America	SW Pacific	Europe	Global
WMO RA:	I	II	III	IV	V	VI	Total
WVSS-II Aircraft:	0	0	0	139	0	9	148

Source: https://community.wmo.int/activity-areas/aircraft-based-observations/newsletter/volume-21#article-9

The WMO is highly supportive of WVSS and TAMDAR and makes the following comments in the Newsletter:

[10] https://community.wmo.int/activity-areas/aircraft-based-observations/newsletter/volume-21#article-9

[11] Aircraft Meteorological Data Relay - Modern commercial aircraft are equipped with meteorological sensors and associated sophisticated data acquisition and processing systems.

"…these in-situ upper-air observations continue to be extremely valuable in all forecast operations, especially numerical weather prediction, and provide a significant contribution to the Global Observing System."

In addition, the Newsletter refers to the UK Met Office intending to proceed with the initial implementation of 30 WVSS-II installs on UK-based aircraft starting in 2022/2023. This is in the context of the expansion of observations necessary for the Met Office Numerical Weather Prediction infrastructure upgrades.

We understand from FLYHT that **these discussions are underway and could result in a hardware order of ~US$2.4m if/when placed** (providing additional logic to the acquisition). Also, FLYHT would then derive the subsequent monthly recurring revenues from these installs by routing the weather data via the AFIRS Edge.

With regards to TAMDAR, which is an additional source of WVM data, "…TAMDAR sounding counts are roughly a quarter of pre-COVID-19 totals and the number of daily reporting aircraft is roughly a third lower compared to pre-pandemic levels."

Figure 16: TAMDAR installs for ABO

Operational TAMDAR Units, by WMO Region

Region:	Africa	Asia	So. America	No. America	SW Pacific	Europe	Global
WMO RA:	I	II	III	IV	V	VI	Total
TAMDAR Installed Aircraft:	9	9	3	155	120	32	**328**
TAMDAR Active Aircraft:	3	2	1	80	33	8	**127**

Source: https://community.wmo.int/activity-areas/aircraft-based-observations/newsletter/volume-21#article-9

"As the airline industry begins to rebound, the largest increase in TAMDAR-equipped flights will be over the South-West Pacific and Asia regions."

This is consistent with AirAsia recommencing international flights.

"The USA has also secured a longer-term agreement with FLHYT, inc. (sic) for continued provision of … TAMDAR and AFIRS-AMDAR data to all WMO members following the…temporary provision during the COVID-19 pandemic."

In summary, we believe that it is reasonable to expect:

- A hardware order for ~30 WVSS units from the UK Met Office (airline to be determined), and
- A recovery in weather-related SaaS revenues as AirAsia flights recover to pre-COVID levels.

Appendix V: FLYHT share price relative performance (past 6 months)

Chart 1: Share prices: FLYHT vs North American airlines at 17/8/22

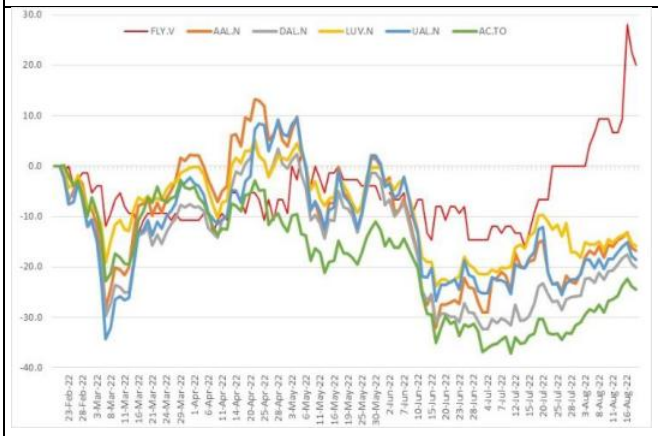


Chart 2: Share prices: FLYHT vs average of North American airlines (proxy index) at 17/8/22

Source: Refinitiv Eikon, KRC Insights

Given that FLYHT's revenue recovery is predicated on a recovery in airline travel in general, we compare FLYHT's share price to that of five major North American airlines (American Airlines (AAL-N), Delta (DAL-N), Southwest (LUV-N), United (UAL-N) and Air Canada (AC-T) in Charts 1 and 2. By reference to Chart 2, FLYHT has outperformed the average share price of this group over the past 6 months (chosen to capture the recent COVID recovery). We applied the same logic to the major airframers (Boeing (BA-N), Airbus (AIR-P) and Embraer (ERJ-N) in Charts 3 and 4. By virtue of the CrossConsense and WVSS acquisitions and traction with its AFIRS Edge and Actionable Intelligence, FLYHT's revenues and hence share price, should recover faster than this group of airline and air framer stocks. This appears to be the case.

Chart 3: Share prices: FLYHT vs Major Air Framers at 17/8/22

Chart 4: Share prices: FLYHT vs average of Major Air Framers (proxy index) at 17/8/22

Source: Refinitiv Eikon, KRC Insights

Disclosure

- 2622632 Ontario Inc. is doing business as KRC Insights.
- KRC Insights/2622632 Ontario Inc. undertakes paid research and was paid by FLYHT Aerospace Solutions Ltd. (FLY-V) for this report.
- 2622632 Ontario Inc. and/or its directors/family members have ownership positions in FLYHT. They may buy, sell or offer to purchase or sell such securities from time to time.
- 2622632 Ontario Inc. and its directors will use all reasonable efforts to avoid engaging in activities that would lead to conflicts of interest and 2622632 Ontario Inc. will use all reasonable efforts to comply with conflicts of interest disclosures and regulations to minimize the conflict.
- The opinion expressed in the report was formed at the date of the report and KRC Insights/2622632 Ontario Inc. undertakes no obligation to update its view.
- The analysis by and opinion of KRC Insights/2622632 Ontario Inc. does not and will not constitute an offer to buy or sell securities in FLYHT.
- KRC Insights/2622632 Ontario Inc. are not registered with any financial or securities regulatory authority in Ontario, Canada or the United States, and do not provide nor claim to provide investment advice or recommendations.
- Research reports written by KRC Insights/2622632 Ontario Inc. are for informational purposes only. The opinions of KRC Insights analyst(s) is/are not intended to be investment, tax, banking, accounting, legal, financial or other professional or expert advice. Consequently, such information should not be relied upon for such advice. Also, this research report was prepared without reference to any particular user's investment risk profile, investment requirements or financial situation. Hence, readers of the report must seek professional advice before acting or omitting to act on any information contained in the report.
- Where reference is made to estimate of value or relative value of a specific company, there is no guarantee that these estimates are reliable or will materialize. Hence, readers of this report are advised to conduct their own due diligence before making any investment decisions.
- This report may include forward-looking statements about objectives, strategies and expected financial results of companies featured. Such forward-looking statements are inherently subject to uncertainties beyond the control of such companies. Readers of this report are cautioned that the company's actual performance could differ materially from such forward-looking statements.
- Although the content of this report has been obtained from sources believed to be reliable, KRC Insights/ 2622632 Ontario Inc. reports could include technical or other inaccuracies or typographical errors and it is provided to you on an "as is" basis without warranties or representations of any kind.
- KRC Insights/2622632 Ontario Inc. make no representation and disclaims all express and implied warranties and conditions of any kind, including without limitation, representations, warranties or conditions regarding accuracy, timeliness, completeness, non-infringement, satisfactory quality, merchantability, merchantable quality or fitness for any particular purpose or those arising by law, statute, usage of trade, or course of dealing. KRC Insights/2622632 Ontario Inc. assumes no responsibility to you or any third party for the consequences of any errors or omissions.
- KRC Insights/2622632 Ontario Inc. assumes no liability for any inaccurate, delayed or incomplete information, nor for any actions taken in reliance thereon.