KRC Insights

FLYHT AEROSPACE SOLUTIONS LTD.

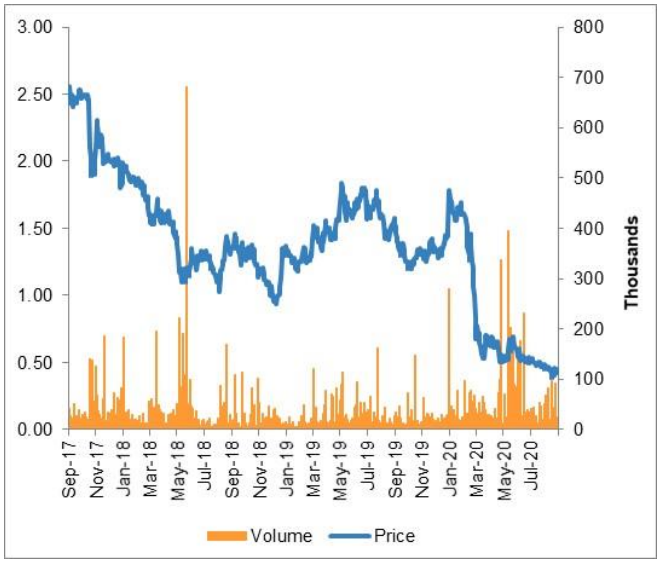
FLY-V: $0.54; FLYLF-OTC: US$0.395

22 SEPTEMBER 2020

Bruce Krugel 416-509-5593

Price	$0.54	Market Cap	$14.4
Target Price	$1.70	Debt	$8.5
Projected Return	215%	Cash	$3.7
52 Week Range	1.88/0.385	EV ($m's)	$19.2
Basic Shares O/S (000's)	26,664		
FD Shares O/S (000's)	33,934		
Insiders	12.0%		

Y/E December ($000's)	2018A	2019A	2020E	2021E
Revenues	13,591	21,171	13,608	19,691
EBITDA	(1,788)	1,009	(1,084)	195
EPS	-0.09	-0.04	-0.09	-0.05
EV/Sales	1.42x	0.91x	1.41x	0.98x



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), 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.

Actionable Intelligence (AI) strategy, hardware contracts, passenger recovery drives +45% 2021E revenue growth and return to Positive EBITDA. Q2 negatively impacted by COVID-19 as expected.

HIGHLIGHTS

- On Sept 16, 2020 FLYHT announced Phase 1 of its Actionable Intelligence (AI) strategy. Using IBM Watson, FLYHT's two launch partners are China Express Airlines and Swoop Airlines. Management is working on adding a third in the next few months.
- FLYHT's AI is a holistic approach enabling airlines to preemptively manage their operations with the goals of improving efficiencies, lowering costs and improving on-time operations. It is a unique solution based on a broader set of operational inputs vs other offerings.
- FLYHT's AI solution is expected to generate $120m in savings to airlines over 3 years when fully implemented (Phases 1-3). Phase 3 requires AFIRS hardware.
- Q2/20 results were negatively impacted by the COVID-19 induced slowdown as expected. Revenues declined 52% YoY, but cost reductions, last of the PWS subsidy and government subsidies resulted in positive EBITDA. FLYHT has access to additional, COVID-19 government support.
- Given SaaS revenues are based on the number of flights, we expect these revenues will directionally follow the recovery in Revenue Passenger Kilometers (RPK). IATA forecasts that RPKs will rise 62% in 2021 over a depressed 2020. Also, FLYHT has 2 existing hardware contracts (working on others) which will be materially delivered in 2021E. This drives our +44.7% recovery in revenues for 2021E.
- We account for the above factors in our sum-of-parts valuation. Maintaining the SaaS revenue multiple of 6.0x and 1x for the other revenue streams, we derive a target price of $1.80 ($3.30 previously).

Disclosures

Please refer important disclosures on 19.

Actionable Intelligence (AI)

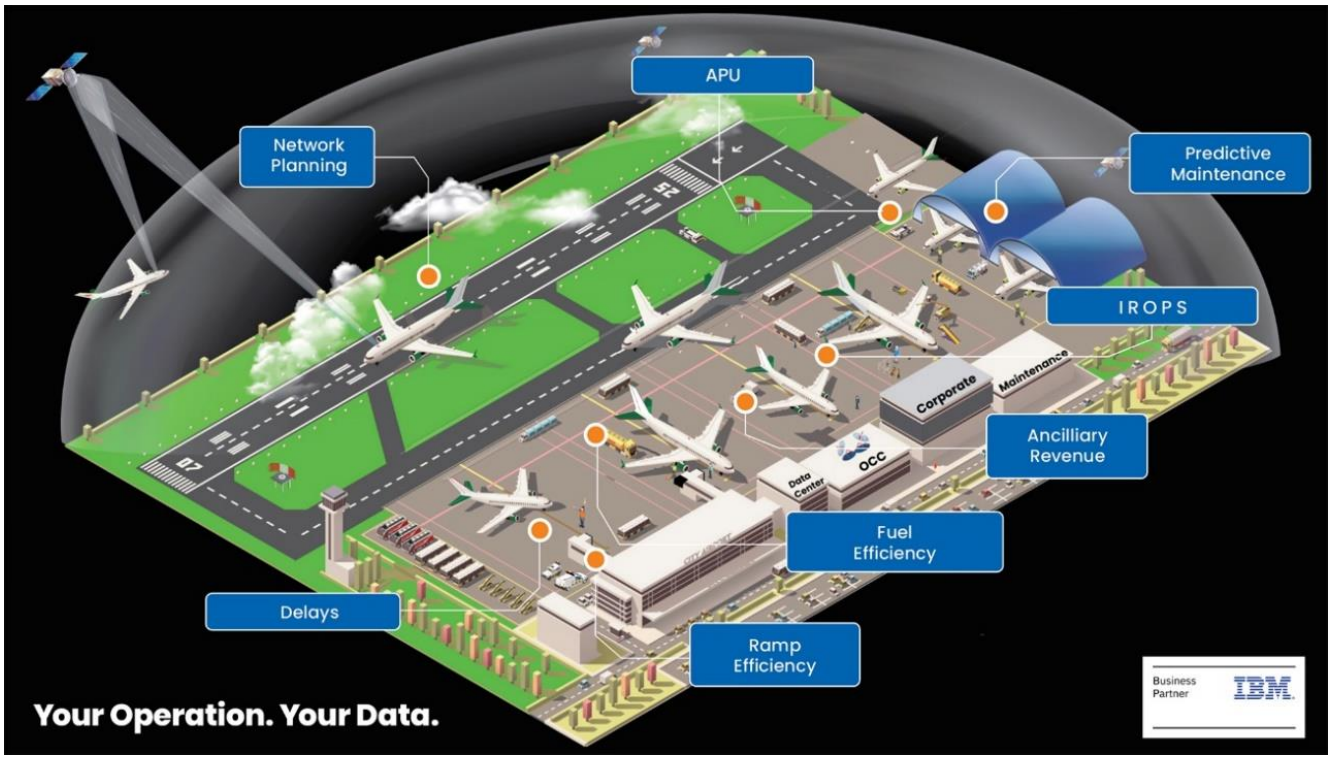
On 8 June 2020, the former CEO, Tom Schmutz was replaced by Bill Tempany, former Chairman of the Board, who is now CEO. The Board of Directors felt that FLYHT needed to change its business direction by accelerating business development and improving its operations and technology footprint so that FLYHT could provide more value to customers faster.

This meant pivoting away from using hardware (AFIRS, FlightLink, TAMDAR) to sell attached services, and a return to FLYHT's core: using an airline's existing technology and infrastructure to provide Actionable Intelligence (AI), which in turn, can be enhanced by the real-time capability of AFIRS, FLYHT's flagship hardware product. In other words, sell software first that delivers immediate return on investment (ROI) and cash flow savings for customers, and then upsell the additional benefits of real-time data provided by AFIRS.

FLYHT's repositioning is a return to its roots: to provide airlines with the opportunity to cut costs, but now within the heightened requirement of giving airlines the ability to navigate their operations around the COVID-19 induced slow down. We believe that the current slow down will exacerbate airlines' requirement to prioritize digital transformation /automation/data utilization as a key strategy to organically improve productivity and lower costs. This strategy is at an early stage and FLYHT will play an important role in this industry evolution.

The competitive advantage of FLYHT's AI strategy is best represented in Figure 1: it seeks to provide a holistic view of the airlines' entire operations. Examples of FLYHT's AI's benefits and sources of cost savings are shown in Appendix I. Competitive solutions, including those currently provided by IBM Watson, focus only on parts of the airline business, particularly ticketing or maintenance.

Figure 1: Touch points of FLYHT's AI holistic strategy



Source: FLYHT

This industry evolution should also be viewed within the context of the "connected aircraft", where an aircraft is a node on a network, and information is shared between the plane and ground operations via sensors throughout the aircraft, by satellite or broadband, to ground systems.

In our initiation of coverage report dated 17 March 2019, we highlighted the desire by airlines to take advantage of this technology move and a separate study which quantified the benefits from the resultant cost savings. Appendix II includes the appropriate extract from this report which highlights the relevance of this technological evolution within the current airline slowdown. FLYHT's product offerings for the Connected Aircraft that will help deliver part of its AI strategy are listed in Figure 2.

Figure 2: FLYHT's product offerings for the connected aircraft

	Offering	Description
Connected Aircraft	AFIRS 228	Captures and transmits data from a myriad of aircraft sensors, including the flight recorder data, via satellite networks to ground operations allowing real-time fleet visualizations and actionable intelligence.
	FlyhtMail	Provides two-way text messaging to the flight deck through the multi-control display unit (MCDU) or an iPad application.
	FlyhtMap	Provides real-time monitoring of and insight into fleets by maximizing intelligent data, alerts, & real-time status updates via an easy-to-use interface which visualizes situational data.
	FlyhtStream	A real-time triggered alert and commencement of black box data streaming in the event of an abnormal situation on an aircraft.
	FlyhtVoice	Using the Iridium satellite constellation, allowing global coverage, and an onboard satellite phone providing a rapid and reliable private voice channel to the flight deck.
Operational Efficiency	FlyhtFuel	Provides intelligent and real-time fuel data to help optimize operational efficiencies, reduce costs, meet carbon offset mandates and other regulatory requirements.
	FlyhtLog	Enables operators to monitor the status and phase of flight of their aircraft and access detailed Out, Off, On and In (OOOI) time information.
Aircraft Health	FlyhtHealth	Via AFIRS, perform real-time aircraft health monitoring, automated engine trend reporting, engine/airframe exceedance reporting, aircraft systems diagnostics
Weather	TAMDAR	Sensor that provides in real-time, high resolution data stream to provide improved atmospheric analysis and weather observations
	Weather Observations	Using either TAMDAR or AMDAR-over-AFIRS, collects in real-time weather data including icing and turbulence.

Source: FLYHT, KRC Insights

But, what exactly is "Actionable Intelligence (AI)"? It is taking operational data and providing efficiencies and cost reductions by using real-time data analytics. By using this service, FLYHT estimates that an operator of a 100 aircraft fleet could save more than $120m over 3 years[1], which happens also to be the time estimated until recovery to 2019 flight levels. The bulk of these savings are derived from:

- Fuel reduction
- Lower auxiliary power unit (APU) consumption
- Trip duration reduction
- Aircraft performance monitoring
- Lower airport expenses

Key to FLYHT's approach is its JetBridge, a proprietary tool, that integrates an airline's disparate systems, merges them into a common pool of data (focussed on real time data, but with a capability to use periodic data),

[1] Per FLYHT September 2020 Investor Presentation

learning what corrective actions are best (via the IBM Watson tool set) and then providing instruction to personnel with regards to when and what action is required. In other words, it takes the functionality that exists on several disparate systems and consolidates them into a single application that airlines will be able to use.

The ability to integrate all of an airline's systems[2] with information from its aircraft (as listed in Figure 3) in real time provides savings and improves customer satisfaction by minimizing trip delays, equipment failures and issues with things such as catering, cleaning, baggage etc.

Figure 3: Airline systems/sources of data

Sources of data
Flight planning, pre-flight, engine start & taxi out
Take-off, initial climb and enroute climb
Cruise flight/cruise climb, higher cruise altitude
Descent, approach and landing
Taxi-in, gate arrival, engine shutdown, post flight

Source: FLYHT, KRC Insights

A key element of FLYHT's AI offering is use of IBM Cloud Pak® for Data, a cloud-based fully-integrated data and artificial intelligence platform that allows businesses to collect, organize and analyze data and to infuse AI throughout their organization. Through Cloud Pak® for Data, FLYHT is accessing IBM Watson, a data analytics processor that uses natural language processing to process large volumes of data, especially unstructured data. This is important to FLYHT's solution due to expected disparate sources of information it will be collecting and analyzing on a client's behalf. FLYHT has spent the last ~100 days refocusing its larger sales team on AI sales.

IBM Watson currently counts Korean Air, Lufthansa, Malaysia Airlines, Singapore Airlines, Etihad Airways and low cost carrier Allegiant Travel as customers, amongst others.

On September 16, 2020 FLYHT formally announced the launch of Phase 1 of its AI suite of SaaS products with IBM Watson Knowledge Catalog and IBM Cloud Pak for Data to enhance efficiency, lower costs and improve on-time operations for clients.

The launch of the Actionable Intelligence sales strategy is being facilitated by two launch partners:

- **Swoop**, the low-cost carrier for WestJet Airlines Group (160 aircraft); its fleet comprises 10 aircraft. Swoop will initially represent a non-AFIRS-based solution, however, it will have AFIRS installed, within the context of the West Jet hardware, making it ready for Phase 3 upgrade if it so chooses.
- **China Express Airlines,** its fleet comprises 50 aircraft (11 Airbus A320s, 1 Airbus A320neo, 38 Bombardier CRJ900)[3] and the company is privately owned. On 10/6/20, China Express announced that it had ordered 100 ARJ21 and C919 passenger aircraft (split not disclosed). The first ARJ21 is to be delivered in 2020. China Express is an AFIRS customer and is installing AFIRS on its ARJ21s.

FLYHT is working on a third launch partner which should be announced in the coming months.

[2] Quick Access Recorder (QAR) data, Aircraft Communication Addressing and Reporting System (ACARS) data, Operational Flight Plan (OFP) data, Standard Schedules Information Manual (SSIM), AFIRS data (if available)
[3] https://en.wikipedia.org/wiki/China_Express_Airlines

FLYHT is positioning the roll out and costs savings of its AI strategy as shown in Figure 4, with its two launch partners implementing Phase 1.

Figure 4: FLYHT Actionable Intelligence (AI) roll-out

	Phase 1	Phase 2	Phase 3
Status	Currently available	Requires integration of other systems	Additional benefits with AFIRS
Requirements	No capital spend	Collaboration of departments	Implementation of AFIRS
	Immediate savings	Coordination of functions	Machine learning
	Collaboration with users	Flexibility of messaging	Taking real-time feeds from aircraft, airport and in-house systems to drive action requests
	Rapid delivery of results	AI real time	
	Actionable items limited	Implementation of JetBridge	
Estimated net savings	$20/flight	Additional $91/flight	Additional $109/flight

Source: FLYHT Investor Presentation September 2020, KRC Insights

We interpret the willingness of these launch partners to participate in FLYHT's AI program as indicative of their desire to move from reactive management to a proactive and predictive approach to cutting costs. Specifically, they are looking to benefit from the:

- Increased ability to conserve cash;
- Need to increase automation to drive a lower headcount;
- Inability to develop the AI technology platform in house;
- Use of a supplier without ulterior motives i.e. aggressive cross selling tactics (Tier 1 providers);
- Need to find savings without spending money; and
- Need to extract maximum profit from all assets.

Q2/20 Revenues

To provide some context for FLYHT's Q2/20 revenue decline of -51.8% (Figure 7), we provide an overview of how the airline industry in general was impacted by COVID-19-driven airline shutdowns. In FLYHT's instance, when aircraft are grounded, airlines cease paying for air travel related services, which includes FYHT's services. FLYHT has exposure to (in order of importance) passenger, air cargo and military markets. Its weather-related revenues are driven by TAMDAR installs on passenger aircraft.

From a passenger perspective, the airline industry reached its nadir in April 2020 when RPK's (revenue passenger kilometers) declined by -94.3%[4] on a year over year basis. Led by a recovery in domestic markets, in June 2020, RPK's had "improved" to -86.5%[5] (Figure 5) and again in July 2020 to -79.8%. International demand has not shown any significant improvement as new epicenters of COVID-19 emerged in several countries, leading to a re-imposition of travel restrictions.

FLYHT's existing SaaS revenues are generated primarily from domestic air travel.

[4] IATA Passenger Market Analysis, April 2020
[5] IATA Passenger Market Analysis, June 2020

Figure 5: Worldwide flights/week

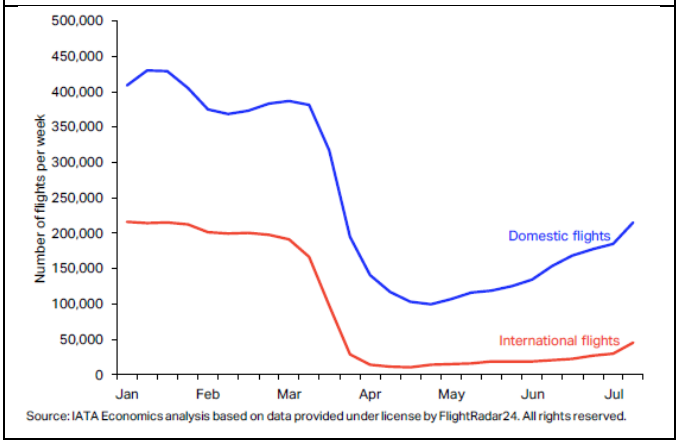
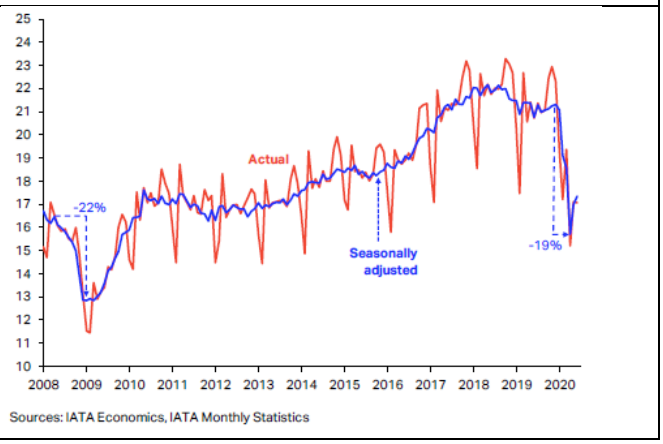


Figure 6: CTK levels (billion/month)



Note: the charts are as of June 2020, but the narrative includes comments relating to July 2020 as well. CTK=Cargo-tonne-kilometres

FLYHT has small exposure to the cargo market. The air cargo market reached its nadir in April 2020 as well showing a -27.7%[6] decline in CTKs (cargo tonne-kilometers) and recovering to -17.6%[7] in June 2020 and then to -13.5% in July 2020. A peak-to-trough comparison shows that the COVID-19 impact on seasonally adjusted cargo volumes is similar to the global financial crisis (Figure 6). *Despite growing uncertainty in COVID-19 developments, economic activity continued to recover in July….But new export orders – a leading indicator for air cargo – show that CTKs should continue to improve in the coming period (IATA Air Cargo Market Analysis, July 2020)*.

FLYHT's SaaS revenues reached their lowest point in May 2020 and have since commenced recovery implying a 30-day delay vs industry data. Bearing in mind the distinction that FLYHT's revenues are generated by aircraft while the industry data is for the number of passengers.

Figure 7: FLYHT Q2/20 revenues ($000's)

	Q2/20	Q2/19	% change	Explanation
SaaS	1,305	2,481	-47.4%	Significant aircraft groundings (non-use) precluded payment as the services were not being used. Weather-related revenues outperformed due to the NOAA contract.
Hardware	451	1,755	-74.3%	7 installation kits were installed vs 31 kits in Q2/19.
Licensing	1,233	1,502	-17.9%	While Licensing decreased ~18% on a YoY basis due to a lower number of modems and license kits vs Q2/19, on a YTD basis Licensing is +80% due to a strong Q1/20.
Services	71	613	-88.4%	Varies significantly on a quarterly basis depending on level of engineering work being undertaken to facilitate future installs.
Total	**3,060**	**6,351**	**-51.8%**	

Source: Company reports; KRC Insights

SaaS revenues. SaaS revenues are billed on a per flight basis, the grounding of aircraft due to COVID-19 flight restrictions resulted in no revenues being generated from these aircraft. The National Oceanic and Atmospheric Administration (NOAA) part of weather-related revenues were being billed at a flat rate of US$500k/quarter, this has now changed to a per sounding billing cycle.

[6] IATA Air Cargo Market Analysis, April 2020
[7] IATA Air Cargo Market Analysis, June 2020

Hardware. AFIRS hardware sales comprised 7 units, of which 5 were to an existing Chinese client. No TAMDAR (weather) units were sold in the quarter. Aside from the impact of COVID-19 related aircraft groundings has had on hardware unit sales, hardware unit sales continue to disappoint. As a consequence, management is re-focusing the company on its key strength - data collection and analytics, its AI strategy.

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

Q2/20 Gross Margins

Gross margins were flat on a year over year basis due to sales mix (Figure 8).

Figure 8: FLYHT Q2/20 margins

	Q2/20	Q2/19	Explanation
Gross margin	67.5%	66.3%	Higher License revenues as a % of total revs helped maintain margins.

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 >89% GM. In Q2/20 hardware and licensing revenues were 14.7% and 40.3% respectively of total revenues vs a more even split in Q2/19 of 27.6% and 23.6% respectively showing the positive impact of the License revenues in Q2/20.

The consistency of gross margins, despite the 47.4% decline in SaaS revenues, reflects the benefit to FLYHT of its pay-per use of the Iridium network.

Q2/20 Expenses

Expenses were actively managed due to the slowdown in revenues. Total expenses declined 22.1%, before the benefits of the PWS subsidy and COVID-19 related government grants (Figure 9).

Figure 9: FLYHT Q2/20 expenses ($000's)

	Q2/20	Q2/19	Explanation
Distribution expenses	1,163.9	2,294.5	Compensation -30.6%, incl. benefit of $605.6k in govt grants
Administrative expenses	686.5	1,118.4	Compensation -29.3%, incl. benefit of $157.6k in govt grants
R&D	440.8	1,020.7	Compensation -15.1%, incl. benefit of $259.5k in govt grants and $141k of SHRED refunds. Next-gen product development delayed by 6 months.
Total expenses	2,291.2	4,433.6	-48.3% decline YoY, -22.1% excl. $1,163.7k in govt grants
PWS subsidy	-178.4	-	Last of the PWS acquisition subsidy
Net expenses	2,112.8	4,433.6	

Source: Company reports; KRC Insights

FLYHT received the last of its subsidy from Panasonic ($178.4k), a subsidy to facilitate the integration of PWS into FLYHT and help offset the offset the negative impact on EBITDA of the acquisition. It also received ~$1.2m in grants from both the Canadian government (CEWS) as well as the United States government (PPP) to offset payroll costs due to COVID-19.

The net impact of the above (Sales, margins and expenses) resulted in an EBITDA of +$153.1k vs $1,511.6k in Q2/19.

Balance Sheet

Cash balances were unchanged at $3.7m from Q1/20's $3.7m. Due to extending payment terms to customers, receivables days increased to 164 days in Q2/20 from 86 days for F2019.

Loans and Borrowings, both long term and short term, are shown in Figure 10:

Figure 10: FLYHT total debt at Q2/20 ($000's)

	Short term	Long term	Total
SADI loan	147.5	1,311.2	1,458.7
WINN loan	325.2	1,993.2	2,318.4
Convertible debenture	133.9	1,528.1	1,662.0
Other		31.0	31.0
Per balance sheet	606.6	4,863.5	5,470.1
Lease liability	565.7	2,512.5	3,078.2
	1,172.3	7,376.0	8,548.3

Source: Company reports, KRC Insights

With regards to 761.5k warrants associated with the convertible debentures, in July 2020, FLYHT amended the exercise price to $0.60 (formerly $1.45) and extended the term of the warrants to 24/12/20 (formerly 24/7/20), subject to 30-day acceleration whereby, for any ten consecutive trading days during the unexpired term of the warrants, the closing price of FLYHT's shares is greater than $0.72.

Figure 11: Fully diluted number of shares

	Shares	Options	Warrants	Convert. Deb	Total
At 30/6/20	26,663.9	1,798.1	3,797.7	1,674.4	33,934.0

Source: Company reports, KRC Insights

Estimate Changes

The main variables influencing our revised revenue forecast for FLYHT from its COVID-19 induced lower run rate are summarised in Figure 12.

Figure 12: Main Revenue forecast considerations

Positive	Negative
Recovery in RPKs	Reduced weather service revenues
Success with AI strategy	Reduced backlog
Hardware contracts	Slower aircraft deliveries

Source: KRC Insights

Revenues can be lumpy off the underlying base of recurring SaaS revenues due to the timing of license revenues and hardware installs. Hence, we prefer to view FLYHT's revenues on an annual basis.

Figure 13: FLYHT revenue forecast changes ($000's)

	2020E		2021E	
	New	Old	New	Old
SaaS	7,652	11,935	8,756	15,178
Hardware	1,556	12,279	7,725	16,120
Licensing	4000	3,000	2,800	3,200
Technical Services	400	1,000	410	1,500
Total	13,608	28,214	19,691	35,998

Source: KRC Insights

SaaS. Looking back, the principal deadline that could have positively influenced hardware sales, and in this context the attached SaaS sales, was the Chinese CCAR 121 R5 deadline of 31/12/19. It came and went without any noticeable impact on FLYHT's revenues. Given that several Chinese airlines made announcements prior to the deadline regarding their compliance with the regulation (China Eastern Airlines, Chang'an Airlines, Hongtu Airlines, Hainan Airlines, amongst others), we assume this opportunity has passed.

Looking forward, the overriding factor impacting FLYHT's SaaS revenue recovery is the pace of recovery of the airline industry. On 28/7/20, IATA released its view of the pace of airline recovery[8]. Certain of its findings are summarized as follows:

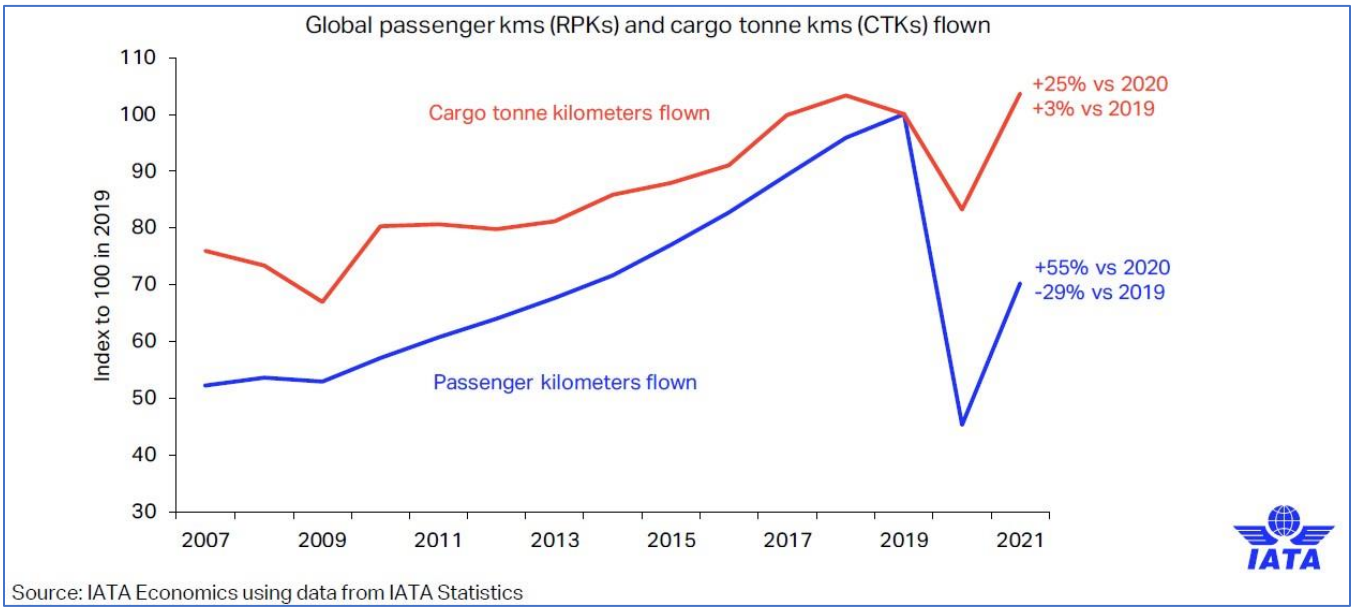
- Global passenger traffic (revenue passenger kilometers or RPKs) will not return to pre-COVID-19 levels until 2024, a year later than previously projected. This is primarily due to a slower forecast recovery in international travel.
- The recovery in short haul travel is still expected to happen faster than for long haul travel (refer to Figure 5). (Beneficial for FLYHT)
- Passenger numbers are expected to rise 62% in 2021 off the depressed 2020 forecast due to stronger recovery in domestic flights (vs 55% a month earlier, Figure 14).
- China's carriers continued to lead the recovery, with traffic down 35.5% in June compared to the year-ago period, raised from a 46.3% decline in May.

[8] https://www.iata.org/en/pressroom/pr/2020-07-28-02/

FLYHT's monthly SaaS revenues have reflected the trends shown in Figure 5, after having bottomed in May 2020, revenues have recovered sequentially each month subsequently, a significant driver of the recovery is China. From a geographic perspective, China comprised 20.1% of revenues in Q2/20 vs 12.8% in Q2/19. If License fees are excluded from quarterly revenues, China represented ~34% of recurring revenues in Q2/20.

Directionally, we expect FLYHT's SaaS revenues will follow the travel recovery that was expected by IATA in its COVID-19 Outlook for the airline industry 2020-2021 dated June 9, 2020 (Figure 14).

Figure 14: IATA Air Cargo and Travel forecasts



As for weather-related SaaS revenues, AirAsia was anticipated to be a significant contributor. However, this revenue source has slowed due to Air Asia's COVID-19 induced financial issues. Backlog was reduced in Q2/20 to $33.0m from $53m as FLYHT re-evaluated its order book, the primary contributor here was AirAsia (Nevertheless, the revised backlog number implies delivery of 350 AFIRS units). Also, the NOAA contract was renegotiated from a flat rate of US$500k/quarter to a per-flight basis driving a lower revenue run rate due to curtailed flight levels.

During 2021, we expect the commencement of AI revenues as FLYHT's launch partners move from the initial deployment to formal implementation. Based on 100 aircraft, five flights/day and which Phase is being billed, FLYHT should generate $3m-$4m p.a. from its AI strategy.

Hardware. We have lowered our estimates of hardware sales (AFIRS and FlightLink/TAMDAR) significantly. Firstly, to acknowledge the impact of COVID-19 on airline capex requirements; secondly, to account for the slow down in new aircraft production generally; thirdly, the change in focus of the company to now use SaaS sales as lead-in to upsell hardware sales; and fourthly, AirAsia is potentially going to slow down installs of its TAMDAR systems due to its current financial position.

However, 2021E will be positively impacted by the West Jet contract (160 Boeing 737s, the majority being deployed in 2021E) and the continued roll out to China Express (~10 aircraft).

We forecast 25 hardware unit sales in 2020E recovering to a record 142 units in 2021E. In 2018, FLYHT sold 99 hardware units and 133 units in 2019. FLYHT is working with other airlines to replace their ageing Inmarsat satellite systems and these wins would be accretive to our numbers.

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. However, new production schedules will negatively impact this revenue stream.

Figure 15: Airbus revised monthly production rates post COVID-19

Aircraft	Old production rate	New production rate[9]	% change
A320	60	40	-33.3%
A330	3.25	2	-38.5%
A220	4	4	-

Source: Airbus, KRC Insights

We have lowered 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). As FLYHT expands its product offerings and penetration into accounts on different aircraft, we expect this revenue stream will grow.

EBITDA. From an EBITDA perspective, we forecast that the COVID-19 induced slowdown will negatively impact FLYHT for the 2020E fiscal year only. We forecast that FLYHT will generate -$1.2m in 2020E but revert to a positive $195k in 2021E as the company benefits from a recovery in SaaS revenues and hardware sales in that year.

Valuation

FLYHT's revenue growth into 2021 will temporarily be dominated by hardware sales as the West jet and China Express contract revenues ramp. We anticipate success on the AI front and, combined with a return to pre-COVID flight levels, we expect the growth momentum will then return to SaaS revenues. Consequently, we continue to view FLYHT as a SaaS company based on its position to participate in the connected aircraft cycle.

Historically, we valued FLYHT's SaaS revenues in line with other SaaS companies as derived in Figure 16. However, to account for the continued COVID-19 induced slowdown imposed on airlines, we are maintaining our SaaS multiple at 6.0x vs the expanded multiple of ~8.3x EV/2021E revenues.

[9] https://www.airbus.com/newsroom/press-releases/en/2020/04/airbus-provides-update-on-march-commercial-aircraft-orders--deliveries-and-adapts-production-rates-in-covid19-environment.html

Figure 16 highlights the major TSX-listed SaaS companies and a select group of US SaaS companies that underwent their initial public offerings (IPO) during 2018. Currently, the TSX listed group is trading at ~8.2x EV/2021E revenues and the US list of 2018 SaaS IPOs is trading at ~8.3x.

Figure 16: Software as a Service (SaaS) comparable companies (currencies per country, pricing at 22/9/20)

					EBITDA		Revenues		Rev	EV/Revenues	
	Symbol	Price	Mkt Cap	EV	2020E	2021E	2020E	2021E	Growth	2020E	2021E
FLYHT Aerospace Solutions Ltd	**FLY.V**	**$0.54**	**$14.4**	**$19.2**	**-$1.08**	**$0.20**	**$13.6**	**$19.7**	**$0.45**	**1.41x**	**0.98x**
TSX (C$)											
Descartes Systems Group Inc	DSG.TO	$70.20	$5,928	$5,819	$181	$203	$451	$502	11.4%	12.91x	11.58x
Open Text Corp	OTEX.TO	$56.14	$15,275	$18,604	$1,549	$1,635	$4,291	$4,304	0.3%	4.34x	4.32x
Kinaxis Inc	KXS.TO	$187.49	$5,051	$4,724	$70	$82	$293	$341	16.4%	16.13x	13.86x
Computer Modelling Group Ltd	CMG.TO	$5.17	$415	$406	$31	$32	$69	$70	0.6%	5.84x	5.81x
Constellation Software Inc	CSU.TO	$1,508.49	$31,955	$32,137	$1,484	$1,684	$5,120	$5,982	16.8%	6.28x	5.37x
Average							**$10,224**	**$11,198**	**9.5%**	**9.10x**	**8.19x**
US-Select SaaS IPOs (2018) (US$)											
DocuSign Inc	DOCU.O	$212.13	$39,279	$39,084	$176	$244	$1,349	$1,777	31.7%	28.97x	21.99x
Dropbox Inc	DBX.O	$20	$8,073	$7,191	$515	$624	$1,900	$2,107	10.9%	3.79x	3.41x
Pluralsight Inc	PS.O	$18	$2,577	$2,703	-$21	-$4	$383	$446	16.6%	7.06x	6.06x
Smartsheet Inc	SMAR.K	$48	$5,824	$5,281	-$35	-$32	$362	$468	29.3%	14.57x	11.28x
Zuora Inc	ZUO	$10	$1,202	$1,031	-$7	$1	$295	$325	9.9%	3.49x	3.18x
Blue Apron Holdings, Inc.	APRN.K	$7	$117	$125	$4	$20	$457	$479	4.7%	0.27x	0.26x
Snap Inc	SNAP.K	$25	$37,421	$36,217	-$153	$268	$2,187	$3,018	38.0%	16.56x	12.00x
Average							**$6,933**	**$8,620**	**24.3%**	**10.67x**	**8.31x**

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

Using a sum of parts approach (Figure 17), we derive a target price of C$1.80 (formerly $3.30) as:

- We maintain the SaaS EV/revenue multiple at 6.0x while our SaaS reference group has undergone upward valuation rerating to ~8.3x;
- Maintain hardware and License revenue multiples at 1.0x.

Figure 17: FLYHT valuation. Sum of parts (000's), EV/2021E Sales

	2021E	Multiple	Value
	$000s		$000s
SaaS Revenues	8,756	6.0x	52,536
Hardware	7,725	1.0x	7,725
Licensing fees	2,800	1.0x	2,800
Enterprise value			63,061
Debt			-8,548
Cash			3,703
Equity			58,216
FD # shares			32,814
Price/share			1.77
Rounded			1.80

Source: KRC Insights

Considerations investors will potentially take into account when investing in FLYHT, include:

- The West Jet and China Express hardware revenues combined with initial AI SaaS revenues will result in FLYHT revenues recovering faster than the airline and airframer industries' revenues. Refer to Appendix IV on p18 for FLYHT's share price relative to these two groups.
- Successful with its AI strategy, FLYHT will be increasing market penetration and growing market share in a difficult market.
- The recovery in air travel should lift all stocks associated with travel, including airlines, cruise operators and hotel chains.
- Evidence of success in its AI strategy, and hence SaaS revenues, investors will potentially start to apply a SaaS market multiple to this revenue stream. This implies that the FLYHT shares will undergo a rerating from being correlated with the airline industry (Appendix IV) to becoming rated as a SaaS company.
- The hardware revenues (West Jet, China Express) provide FLYHT some runway with regards to the implementation of its AI strategy.

Appendix I: Examples of benefits and cost savings using existing airline systems[10]

- **FLYHTFuel** – Post-flight data processing that provides an airline with the ability to track its crew's performance in following industry standard fuel efficiency best practices. This Includes tracking: Engine Out Taxi Out, Reduced Flap Takeoff, Low Noise Low Drag Approach, Engine Out Taxi In, Reduced Acceleration Altitude, Reduced Flap Landing, Idle Reverse Landing
- **Aircraft performance monitoring** – post flight data processing that provides guidance on bias correction of flight planning systems and Fuel Management Systems (FMS) fuel calculations. This results in:
    - Safer flights because incorrect biases are corrected resulting in landing with safer (more accurate) fuel
    - More efficient flights because incorrect biases are corrected resulting in landing with less (more accurate) fuel. When landing with less fuel, an aircraft burns less overall fuel due to a reduction in aircraft weight
- **Real-Time Auxiliary Power Unit (APU) Monitoring** – real-time notifications for when the APU use exceeds normal operations. Examples include:
    - Runtime exceeds predetermined limit
    - Operated at restricted airports
    - Auxiliary Power Unit operated without main bus or Flight Data Recorder power – AFIRS automation differentiator
- **CORSIA** – ICAO Carbon Offsetting and reduction Scheme for International Aviation
- **Efficiency** – Post flight data processing provides the ability to apply existing knowledge/expertise to analyze, visualize, and monitor applied operational changes e.g. calculate and visualize delay cost per minute over time.

Examples of savings and efficiencies that can be effected with AFIRS installed (Phase 3) which impacts fuel efficiency, reliability and maintenance savings, include:

- Weight trending for Operating Empty Weight management
- Engine health
- Engine to engine on individual aircraft comparisons
- Drag trending
- Increase engine time on wing – reduces recurrence of costly engine changes

Perhaps, one of the more important features is real-time, exception-based notifications. While it is derived primarily from post-flight data processing, it allows users to "drill into" notifications for additional data and context. If the best practice being exception tracked is using live aircraft data versus post-flight data, then the notification is live.

And finally, benchmarking reports. Using the data accumulated over time, a carrier will be able to benchmark its operations against itself and industry comparatives to evaluate its performance including:

- Head start (day-to-day, station-to-station, etc.)
- Crew to crew
- Speed schedule compliance

[10] Quick Access Recorder (QAR) data, Aircraft Communication Addressing and Reporting System (ACARS) data, Operational Flight Plan (OFP) data, Standard Schedules Information Manual (SSIM), AFIRS data (if available)

- Aircraft to fleet
- Airline to industry
- Fleet maintenance efficiency against industry
- City pairs
- Over time Auxiliary Power Unit use
- Auxiliary Power Unit use at airports
- Auxiliary Power Unit use to crews
- Auxiliary Power Unit parameter capture and benchmarking
- Engine health – Includes engine to engine on individual aircraft comparisons
- Completion rate Key Performance Indicator

This benchmarking enables the carrier to gain sufficient insight into its operations at a holistic level, including:

- Additional Fuel Efficiency
- Reliability
- Delay Prevention and Mitigation
- Irregular Operations
- Network Planning
- Operational Insights and Cost Drill down

Appendix II: Excerpt from report dated 17 March 2019

"Two market studies concluded that airlines will indeed invest in the connected aircraft with costs savings a key benefit.

In June 2018, Honeywell issued its *Airlines Push Connectivity Beyond the Cabin* report. The report surveyed more than 100 technology decision makers across the commercial aviation sector to understand their companies' connectivity aircraft requirements. Some data points:

- **99% of respondents would use connectivity** to solve their airlines' biggest issues. One of the biggest reasons given was for predictive maintenance.
- 67% expected connectivity-related products to **save costs** in the next year.
- With 55% rating Maintenance a 5 (significant concern) for business challenges, **57% of respondents rated Maintenance a 5 (extremely important) for importance of connectivity**
- 49% rated pilot flight (flight path awareness weather etc.) a 5
- 61% responded "very likely" to "extremely likely" to spend on new connectivity-related technologies over the next year,
- **58% would spend on predictive maintenance**
- With regards to spending **per plane** on connectivity related products, 51% expected to spend between US$500k-US$10m+ (33% could not disclose/not considering)

The London School of Economics in conjunction with Inmarsat produced a detailed report *Sky High Economics* of which *Chapter Two: Evaluating the Economic Benefits of Connected Airlines* is of specific interest as it pertains to FLYHT. Some salient highlights from the report include:

- Connected Operations Services – Satcom services can provide efficiency and safety improvements in terms of pre- and post-flight reporting, flight planning and logistics, flight optimisation. Better **weather prediction could save 850m liters of fuel p.a.** Improved reliability of flight arrival times could save US$1.2bn p.a.
- Maintenance Operations Control Services – modern long-haul aircraft can generate up to 500GB of data per flight. Transmission of this data to control centers on the ground and its analysis **preventing unscheduled aircraft on the ground could save US$3bn-US$4.6bn p.a.**
- Airline Operations Control Services – a secure connection to the aircraft with real time telemetry tracking and streaming flight data, including the "Black Box In The Cloud" and others, could save US$1.3bn p.a. **Avoiding turbulence could generate fuel savings of US$1.3bn-US$2.6bn, and US$409m-US$806m in airframe inspections**. Telemedicine connectivity could save substantially by obviating the need for diversion landings.
- Air Traffic Control Services – **satellite navigation and automated aircraft position reporting** and providing digital communications could save the industry **US$3.0bn p.a."**

Appendix III: Income Statement ($000's)

Dec year-end $000's	2017	2018	2019	Q1/20	Q2/20	Q3/20E	Q4/20E	2020E	2021E
SaaS	4,313	5,529	10,247	2,739	1,305	1,619	1,990	7,652	8,756
Hardware	4,601	5,537	6,652	228	451	372	505	1,556	7,725
Parts sales/Licensing	4,952	2,265	3,241	2,264	1,233	233	270	4,000	2,800
Services	154	260	1,032	65	71	100	164	400	410
Revenues	**14,019**	**13,591**	**21,171**	**5,295**	**3,060**	**2,324**	**2,929**	**13,608**	**19,691**
Total revenue growth	-2.2%	-3.1%	55.8%	-0.9%	-51.8%	-55.3%	-31.2%	-35.7%	44.7%
Cost of revenue	(4,773)	(5,525)	(8,844)	(1,326)	(994)	(860)	(1,201)	(4,381)	(7,613)
Gross profit	9,246	8,066	12,327	3,970	2,066	1,464	1,728	9,228	12,077
Distribution Expenses	(4,952)	(5,993)	(8,296)	(2,109)	(1,164)	(1,580)	(1,407)	(6,260)	(6,892)
Administration Expenses	(3,159)	(3,252)	(4,214)	(1,099)	(686)	(790)	(690)	(3,266)	(3,544)
R&D	(2,519)	(2,631)	(3,770)	(928)	(441)	(511)	(433)	(2,313)	(2,166)
Total costs	(10,629)	(11,876)	(16,279)	(4,136)	(2,291)	(2,882)	(2,530)	(11,839)	(12,602)
Operating income	(1,383)	(3,810)	(3,952)	(166)	(225)	(1,418)	(802)	(2,611)	(525)
Interest and other income	16	207	30	429	17		4	450	50
Forex, Interest paid, convertible deb	(379)	(472)	(951)	(205)	(247)	(238)	(260)	(950)	(950)
Other*		1,861	4,127	629	178		0	807	
Net income before taxation	(1,747)	(2,214)	(747)	686	(277)	(1,655)	(1,059)	(2,304)	(1,425)
Taxation	(9)	248				8	3	12	7
Net income	**(1,756)**	**(1,967)**	**(747)**	**686**	**(277)**	**(1,647)**	**(1,056)**	**(2,293)**	**(1,418)**
EPS - Basic	($ 0.09)	($ 0.09)	($ 0.04)	$ 0.03	($ 0.01)	($ 0.06)	($ 0.06)	($ 0.09)	($ 0.05)
EPS - FD	($ 0.09)	($ 0.09)	($ 0.04)	$ 0.02	($ 0.01)	($ 0.06)	($ 0.06)	($ 0.09)	($ 0.05)
	2017	**2018**	**2019**	**Q1/20**	**Q2/20**	**Q3/20E**	**Q4/20E**	**2020E**	**2021E**
Gross profit %	66.0	59.3	58.2	75.0	67.5	63.0	59.0	67.8	61.3
Operating margin %	(9.9)	(28.0)	(18.7)	(3.1)	(7.4)	(61.0)	(27.4)	(19.2)	(2.7)
EBITDA $000's	(1,240)	(1,788)	1,009	729	153	(1,418)	(549)	(1,084)	195
EBITDA margin %	(7.7)	-13.2%	4.8%	13.8%	5.0%	-61.0%	-18.8%	-8.0%	1.0%
Effective tax rate %	(0.5)	11.2				0.5	0.3	0.5	0.5
Net margin %	(12.5)	(14.5)	(3.5)	13.0	(9.0)	(70.9)	(36.0)	(16.8)	(7.2)

*=PWS subsidy

Appendix IV

Chart 1: Share prices: FLY vs North American Airlines at 16/9/20

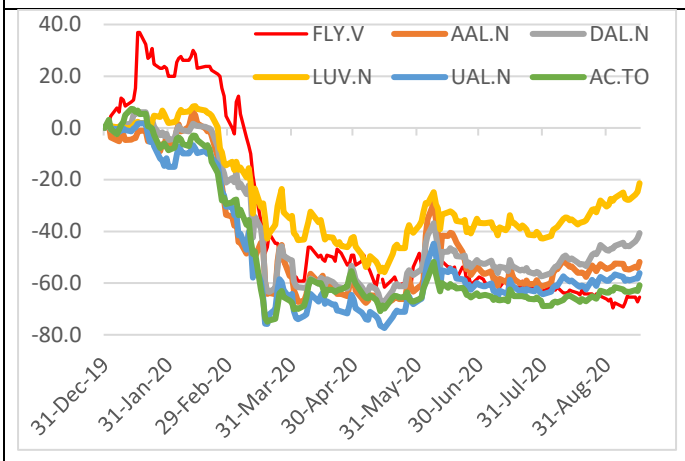
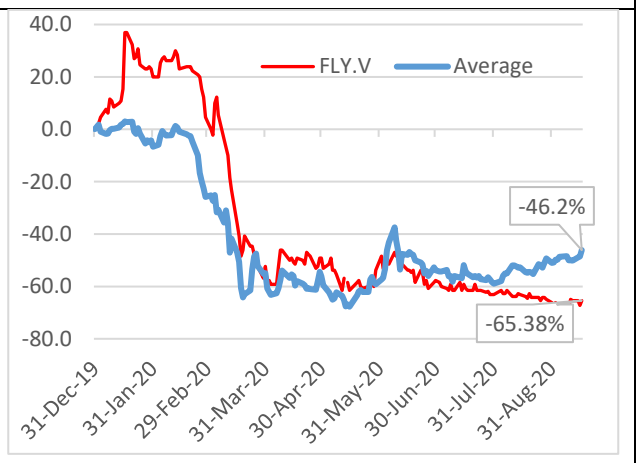


Chart 2: Share prices: FLY vs average of North American airlines (proxy index) at 16/9/20



Source: Refinitiv Eikon, KRC Insights

Given that FLYHT's revenue recovery is predicated on a recovery in airline travel in general, we compared 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)) (Chart 1). Of the five airlines, Southwest has recovered the most, down only 21.4% since the beginning of the year. Averaging the share price performance of the five stocks (Chart 2) to derive a proxy index and to more clearly show FLYHT's relative share price performance, FLYHT has underperformed the airlines having declined 65.4% vs 46.2% for the group. We applied the same logic to the major airframers (Boeing (BA-N), Airbus (AIR-P) and Embraer (ERJ-N)-Charts 3 and 4. By virtue of the West Jet and China Express contracts, FLYHT's revenues and hence share price, should recover faster than this group of airline and air framer stocks.

Chart 3: Share prices: FLY vs Major Air Framers at 16/9/20

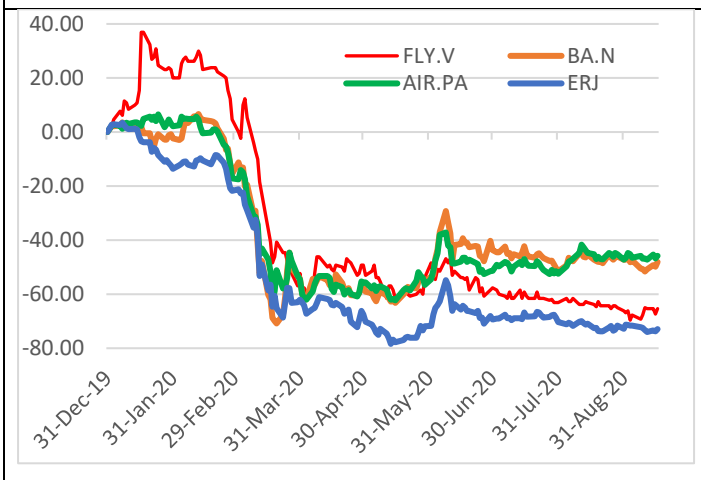
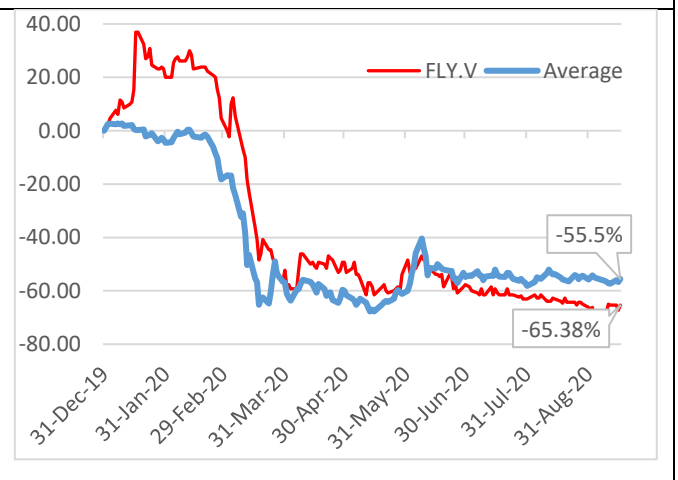


Chart 4: Share prices: FLY vs average of Major Air Framers (proxy index) at 16/9/20



Source: Refinitiv Eikon, KRC Insights

Disclosure

- KRC Insights is the research and consulting arm of 2622632 Ontario Inc.
- KRC Insights undertakes paid research and was paid by FLYHT Aerospace Solutions Ltd for this report.
- 2622632 Ontario Inc. and its directors/family members have ownership positions in FLYHT Aerospace Solutions Ltd (FLY-V). 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 undertakes no obligation to update its view.
- The opinion of KRC Insights does not and will not constitute an offer to buy or sell securities in FLYHT.
- KRC Insights and 2622632 Ontario Inc. are not registered with any financial or securities regulatory authority in Ontario or Canada, and do not provide nor claim to provide investment advice or recommendations.
- Research reports written by KRC Insights are for informational purposes only. The opinions of KRC Insights analyst(s) is 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. Readers of the report must seek professional advice before acting or omitting to act on any information contained in the report.
- This research report was prepared without reference to any particular user's investment risk profile, investment requirements or financial situation. 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 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 and 2622632 Ontario Inc. make no representation and disclaim 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 and 2622632 Ontario Inc. and its affiliates assume no responsibility to you or any third party for the consequences of any errors or omissions.
- KRC Insights assumes no liability for any inaccurate, delayed or incomplete information, nor for any actions taken in reliance thereon.