

William Blair

Aviation Services Industry Update

Q4 2023

In This Report

Hangars in High Demand

Delays and Cancellations in Commercial Aviation Persist

Atlantic Aviation Partners With Beta Technologies

Activity Updates and Analyses



Aviation Services Observations and Key Trends

Hangar Shortages Continue While Commercial Travel Delays and Cancellations Persist; FBO Industry Embraces Electric Aviation

While business jet activity in 2023 was ~12% higher than 2019's pre-pandemic levels, activity remained depressed compared to 2022, down ~5%. But the last quarter of 2023 saw improvement, down only 2% compared to 5% and 7% in the previous two quarters. U.S. business jet activity in December 2023 saw a year-over-year increase of more than 10%. General aviation increased by ~1% year-over-year while the last quarter of 2023 saw a ~5% increase compared to 2022.¹

Hangar Shortage Continues

The critical shortage of hangar space for aircraft owners remained an ongoing challenge throughout 2023 that is persisting into 2024. The prolonged useful life of aircraft, the trend toward larger aircraft, and the limited capacity of hangars all contribute to the shortage.

The trend toward larger aircraft has been one of the notable changes in aircraft design in recent years. In 1996, Bombardier's most sizable aircraft was a 4,485 square-foot Challenger 604. The following year, Bombardier introduced the Global Express, which more than doubled the size of the Challenger 604 to 9,000 square feet. Today, the Global 7500 is 11,648 square feet, more than 2.5 times bigger than the 1996 model. These

trendlines coupled with steadily growing deliveries of business jets explain why hangarage demand is outstripping supply. In 2023, there were 712 business jets delivered, with the United States accounting for ~70% of the influx.²

Constructing more hangar facilities is an obvious solution. But doing so has become more expensive over the last few years with the rising cost of materials and labor.

Commercial Travel Challenges Persist

Shortages of pilots, aircraft, and air traffic controllers contributed to increased flight delays and cancellations throughout 2023. The Department of Transportation received 38,135 complaints in the first five months of 2023, a 68% increase compared to 2022 and a 584% hike compared to the same period in 2019.³ Despite efforts made by the Federal Aviation Administration (FAA) to hire more air traffic controllers, there was a 10% decline in certified professional air traffic controllers between 2012 and 2022.⁴

Delays of aircraft deliveries to airlines have become increasingly problematic. Due to quality issues and FAA certification delays, deliveries of Boeing 737 narrow-body model and 787 wide-body jets declined. Aircraft delivery delays have had lasting ramifications on airlines as the demand for commercial flights increases.

Many travelers began shifting to private aviation during the COVID-19 pandemic and stuck with it, as 95% of new entrants that turned to private aviation have opted to continue flying privately.⁵ More travelers could make that switch if commercial aviation does not improve in the next few years.

Atlantic Aviation Partners With Beta Technologies

Atlantic Aviation partnered with aircraft manufacturer Beta Technologies to install electric charging stations at its fixed-base operators (FBOs). The first charger was installed at Elmira Regional Airport in New York, and the partnership aims to continue installing the electric charging stations at other key Atlantic Aviation locations, including Birmingham International Airport in Alabama, Jackson-Medgar Wiley Evers International Airport in Mississippi, and Westfield-Barnes Regional Airport in Massachusetts.

Beta's technology-agnostic charging stations are operational at 17 locations, with plans to install more at an additional 55 sites. The charging stations are compatible with various aircraft types and electric ground vehicles.

Atlantic Aviation's proactive approach underscores its commitment to meet dynamic market demands and enhance sustainability in the aviation industry. Beta's goals are aligned, focusing on implementing a reliable network of fast charging stations for the entire aviation industry.

Other key industry players are making similar investments. Joby Aviation recently partnered with Clay Lacy to install an electric air taxi charger at John Wayne Airport in Southern California. The company has designed its Global Electric Aviation Charging System to be compatible with all electric aircraft currently under development. These initiatives highlight the industry's dedication to integrating electric technology, reducing carbon emissions, and transitioning toward sustainable aviation.

1. Source: Federal Aviation Administration.

2. Source: Business Jet Traveler, "[As the Private Aircraft Fleet Grows, Hangar Availability Dwindles](#)," March 2023.

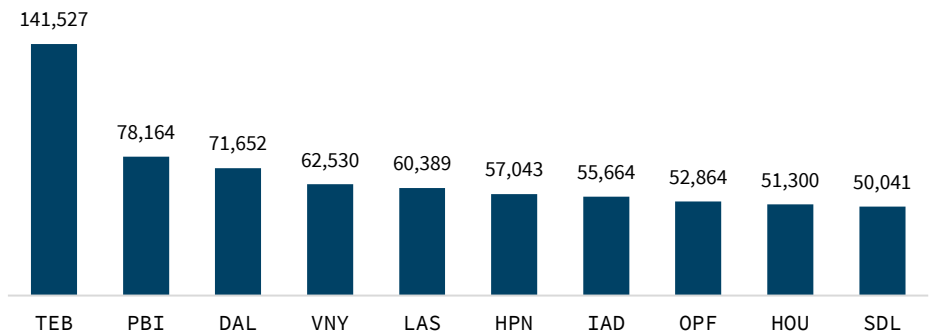
3. Source: U.S. Department of Transportation.

4. Source: U.S. Department of Transportation, Office of Inspector General, "[FAA Faces Controller Staffing Challenges as Air Traffic Operations Return to Pre-Pandemic Levels at Critical Facilities](#)," June 21, 2023.

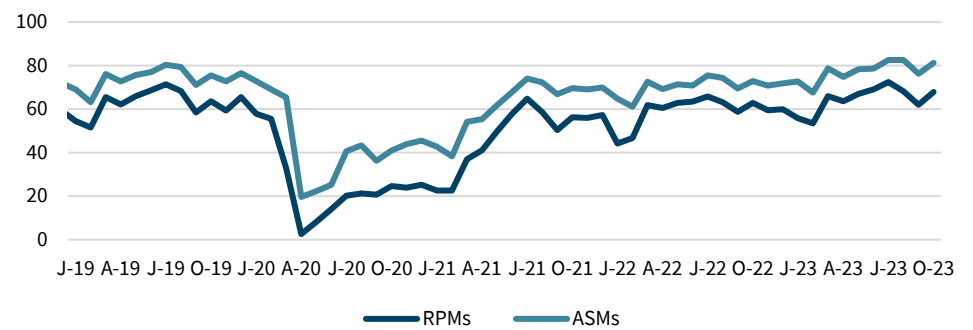
5. Source: [Private Jet Card Comparisons, 2023 Jet Report Card](#).

Business Jet Operations and Commercial Flight Activity

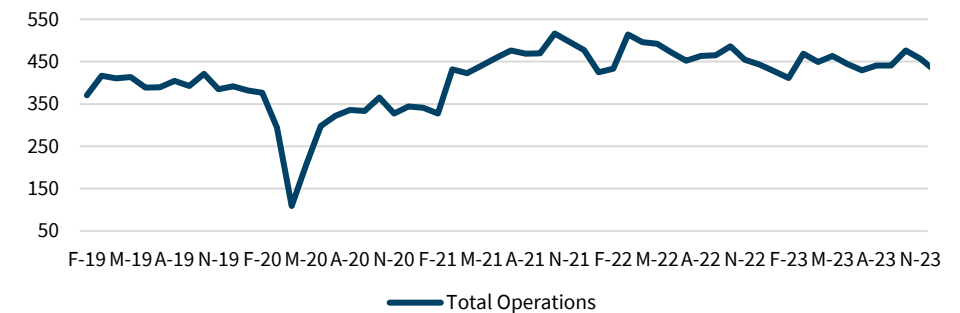
Top 10 Airports for Domestic Business Jet Operations (LTM December 2023 Business Jet Operations)



Air Traffic (RPMs) and Capacity (ASMs) (Millions of Miles)

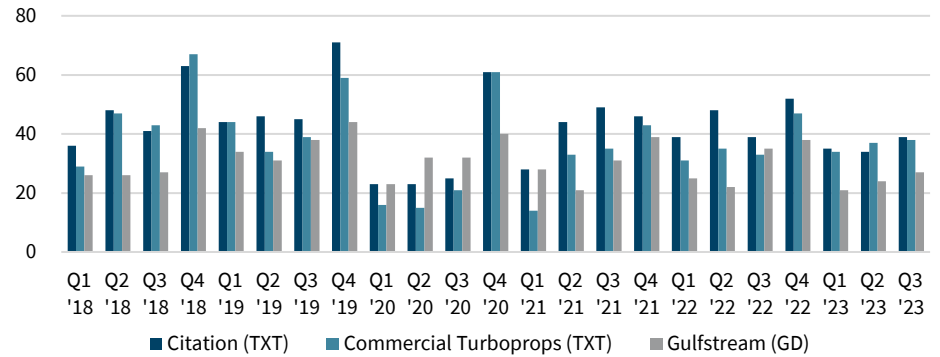


Business Jet Operations (Thousands of Operations)

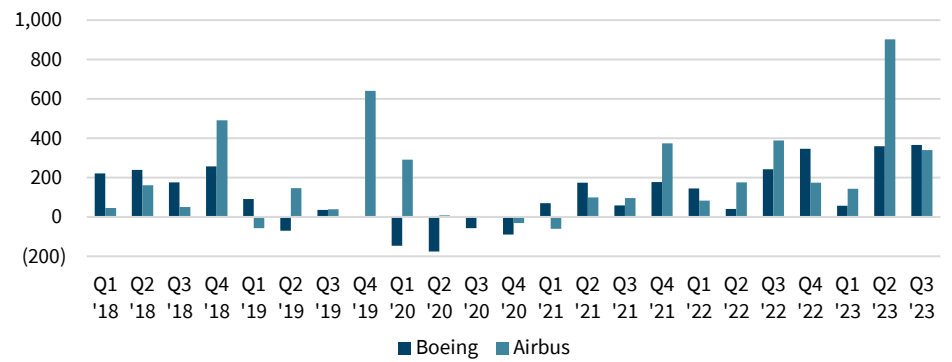


Business Jet and Commercial Aircraft Orders and Deliveries

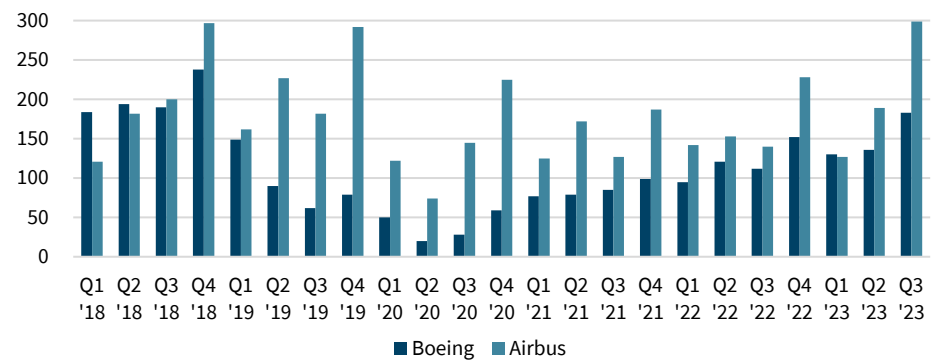
Private Aircraft Deliveries



Net Orders



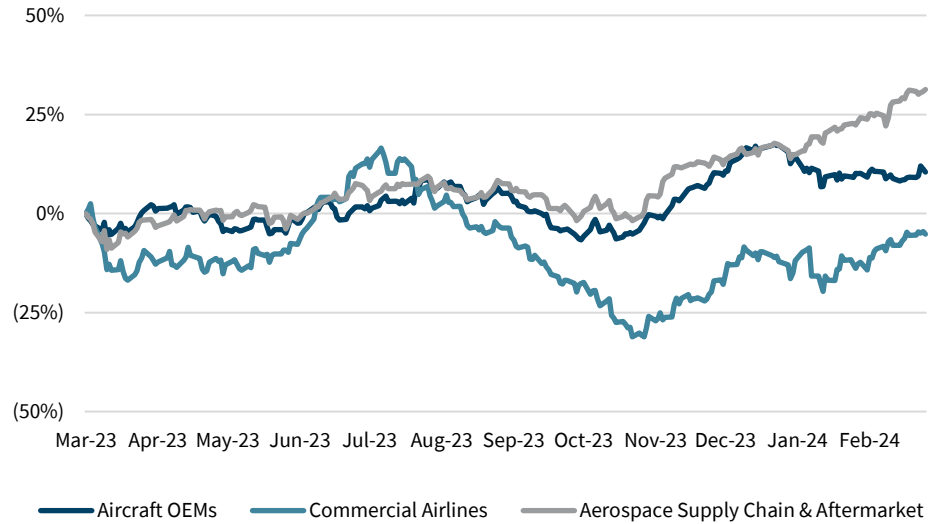
Deliveries



Public Company Performance

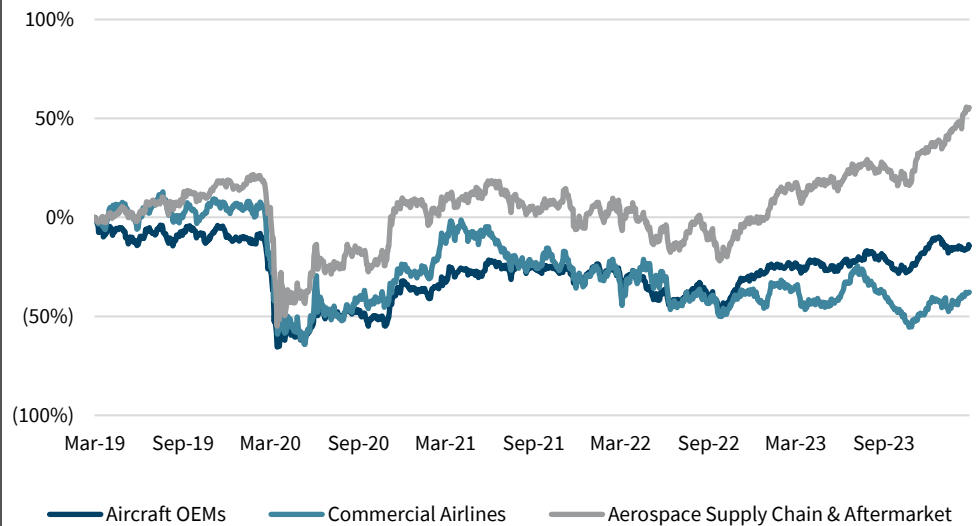
Public Company 1-Year Stock Performance

(Indexed Market Capitalization for the Period March 2023–February 2024)



Public Company 5-Year Stock Performance

(Indexed Market Capitalization for the Period March 2019–March 2024)



Aircraft OEMs: ENXTPA:AIR, ENXTPA:AM, NYSE:BA, NYSE:ERJ, NYSE:GD, NYSE:TXT, TSX:BBD.B
Commercial Airlines: NasdaqGS:AAL, NasdaqGS:JBLU, NasdaqGS:UAL, NasdaqGS:ULCC, NYSE:ALK, NYSE:DAL, NYSE:LUV, NYSE:SAVE
Aerospace Supply Chain & Aftermarket: ENXTPA:SAF, NasdaqCM:ASLE, NasdaqGS:ATRO, NasdaqGS:VSEC, NasdaqGS:WWD, NYSE:AIR, NYSE:B, NYSE:DCO, NYSE:HXL, NYSE:KAMN, NYSE:MOG.A, NYSE:RBC, NYSE:SPR, NYSE:TDG, NYSE:TGI, NYSE:WCC, TSX:CAE, TSX:MAL, XTRA:MTX

Public Company Operating and Valuation Metrics

Company	Enterprise Value (\$ millions)	Market Capitalization (\$ millions)	% of 52 - Week High	Rev Growth			Enterprise Value /			
				'23P	'24P	LTM EBITDA Margin	LTM Revenue	NTM Revenue	LTM EBITDA	NTM EBITDA
Aircraft OEMs										
The Boeing Company	\$160,210	\$122,027	74.9%	16.8%	15.8%	4.1%	2.1x	1.8x	NMF	24.9x
Airbus SE	124,773	130,120	100.7%	15.2%	7.4%	9.4%	1.7x	1.6x	18.4x	12.4x
General Dynamics Corporation	83,559	74,389	99.5%	7.3%	10.0%	10.8%	2.0x	1.8x	18.3x	13.9x
Textron Inc.	19,236	17,102	100.1%	6.3%	7.1%	12.2%	1.4x	1.3x	11.5x	10.8x
Bombardier Inc.	8,266	3,584	67.1%	16.4%	5.7%	11.6%	1.0x	1.0x	8.9x	6.2x
Dassault Aviation société anonyme	7,510	15,662	97.3%	(9.0%)	(13.8%)	10.7%	1.1x	1.3x	10.2x	11.5x
Embraer S.A.	5,467	3,840	101.7%	21.2%	4.8%	5.0%	1.0x	1.0x	20.2x	8.6x
Mean	\$58,432	\$52,389	91.6%	10.6%	5.3%	9.1%	1.5x	1.4x	14.6x	12.6x
Median	\$19,236	\$17,102	99.5%	15.2%	7.1%	10.7%	1.4x	1.3x	14.9x	11.5x
Aerospace Supply Chain and Aftermarket Support										
Safran SA	\$87,070	\$86,600	100.5%	25.3%	13.4%	18.7%	3.3x	2.9x	17.9x	15.2x
TransDigm Group Incorporated	83,535	65,797	97.0%	23.9%	13.8%	49.0%	12.0x	10.5x	24.5x	20.1x
WESCO International, Inc.	13,339	7,749	77.8%	4.5%	2.1%	7.3%	0.6x	0.6x	8.2x	7.7x
MTU Aero Engines AG	14,469	12,773	92.0%	4.1%	33.2%	0.5%	2.4x	1.8x	NMF	10.7x
CAE Inc.	8,345	6,011	75.6%	23.7%	1.3%	17.6%	2.4x	2.4x	13.8x	10.2x
Woodward, Inc.	9,183	8,571	96.4%	25.3%	6.6%	15.9%	3.0x	2.8x	18.8x	15.9x
RBC Bearings Incorporated	8,963	7,722	93.0%	7.5%	5.9%	29.5%	5.8x	5.5x	19.7x	17.7x
Hexcel Corporation	6,828	6,326	95.9%	13.4%	11.2%	19.0%	3.8x	3.4x	20.1x	16.7x
Spirit AeroSystems Holdings, Inc.	7,185	3,827	92.0%	20.2%	24.1%	1.4%	1.2x	1.0x	NMF	10.8x
Moog Inc.	5,716	4,772	99.4%	11.2%	3.7%	12.4%	1.7x	1.6x	13.5x	11.4x
Barnes Group Inc.	3,014	1,766	81.7%	15.0%	12.8%	19.4%	2.1x	1.8x	10.7x	8.9x
Triumph Group, Inc.	2,560	1,091	82.0%	18.1%	(7.5%)	12.7%	1.8x	2.0x	14.3x	13.0x
AAR Corp.	2,610	2,327	88.8%	17.6%	8.8%	8.7%	1.2x	1.1x	13.8x	10.8x
Kaman Corporation	1,828	1,295	99.6%	12.8%	2.0%	13.6%	2.4x	2.3x	17.4x	15.0x
VSE Corporation	1,650	1,188	98.6%	13.4%	(6.1%)	10.1%	1.5x	1.6x	15.2x	12.0x
Ducommun Incorporated	964	710	86.5%	6.2%	6.0%	10.3%	1.3x	1.2x	12.4x	8.7x
Astronics Corporation	809	645	82.8%	28.8%	12.0%	3.5%	1.2x	1.0x	NMF	8.4x
AerSale Corporation	523	479	42.5%	(17.9%)	33.7%	3.1%	1.6x	1.2x	NMF	7.2x
Magellan Aerospace Corporation	398	340	85.7%	11.1%	9.7%	6.0%	0.6x	0.6x	10.6x	5.8x
Mean	\$13,631	\$11,578	87.8%	13.9%	9.8%	13.6%	2.6x	2.4x	15.4x	11.9x
Median	\$5,716	\$3,827	92.0%	13.4%	8.8%	12.4%	1.8x	1.8x	14.3x	10.8x
Commercial Airlines										
Delta Air Lines, Inc.	\$51,460	\$26,947	83.2%	14.8%	(0.6%)	13.9%	0.9x	0.9x	6.4x	5.6x
American Airlines Group Inc.	42,531	10,253	79.2%	7.8%	4.0%	11.9%	0.8x	0.8x	6.8x	5.7x
United Airlines Holdings, Inc.	37,060	14,709	75.4%	19.5%	5.9%	14.5%	0.7x	0.7x	4.8x	4.6x
Southwest Airlines Co.	17,989	20,263	84.9%	9.6%	9.7%	8.3%	0.7x	0.6x	8.3x	6.8x
Alaska Air Group, Inc.	6,685	4,664	63.6%	8.1%	1.7%	12.2%	0.6x	0.6x	5.3x	4.5x
Spirit Airlines, Inc.	6,624	707	27.9%	5.8%	5.0%	(3.2%)	1.2x	1.2x	NMF	14.6x
JetBlue Airways Corporation	6,008	2,195	69.1%	5.0%	(1.0%)	5.5%	0.6x	0.6x	11.4x	9.0x
Frontier Group Holdings, Inc.	4,389	1,539	62.8%	7.9%	14.5%	(2.8%)	1.2x	1.1x	NMF	6.0x
Mean	\$21,593	\$10,160	68.3%	9.8%	4.9%	7.5%	0.8x	0.8x	7.2x	7.1x
Median	\$12,337	\$7,459	72.3%	8.0%	4.5%	10.1%	0.7x	0.7x	6.6x	5.9x

Select Aviation Services Transactions

Date	Target	Acquirer	Sub-Sector	William Blair Transaction
Jan-24	Meridian	Signature Flight Support	FBO	
Dec-23	Fontainebleau Aviation	Skyservice (Instar)	FBO	●
Dec-23	FlyExclusive	EG Acquisition	Charter	
Nov-23	Jet East	West Star Aviation	MRO	
Nov-23	Modern Aviation (16 locations)	Apollo (Majority) and Tiger Infrastructure Partners	FBO	
Aug-23	Wencor	HEICO	MRO	●
Aug-23	Flying Colours	FlexJet (Eldridge and Directional Aviation)	MRO	
Jun-23	Yingling Aviation	AE Industrial Partners	FBO / MRO	
May-23	Primeflight Aviation Services	Capitol Meridian Partners and The Sterling Group	Ground Handling	
May-23	Star Handling	Skytanking (Primeflight)	Ground Handling	
Apr-23	Epps Aviation (Atlanta, GA)	Aero Centers (SAR-Trilogy and Redbird Capital)	FBO / Charter / MRO	●
Mar-23	Midwest Corporate Aviation	Clemens Aviation	FBO / Charter / MRO	
Mar-23	Atlas Air	Apollo Global, JF Lehman, and Hill City Capital	Air Cargo	
Mar-23	Golden Isles Aviation (St. Simons, GA)	Odyssey Aviation	FBO	
Mar-23	Dolphin Aviation (Sarasota, FL)	Hawthorne Global Aviation Services	FBO	
Feb-23	Western Jet Aviation	StandardAero	MRO	
Feb-23	Constant Aviation (Cleveland, OH)	Directional Aviation (AKA FlexJet)	MRO	
Jan-23	Dumont (Charter Division)	Rennia Aviation	Charter	
Nov-22	Northeast Aero Compressor (Bohemia, NY)	Jet Parts Engineering	MRO	
Nov-22	Associated Aircraft Manufacturing & Sales, Inc	First Aviation Services	MRO	
Oct-22	UltraAir (Omaha, NE)	Four Corners Aviation	Charter	
Oct-22	TCR International	3i Infrastructure	Ground Handling	
Oct-22	Mystic Jet Center (3 locations)	Modern Aviation	FBO	
Sep-22	Skytech (2 locations)	Pilatus	Charter / MRO	
Sep-22	Mayo Aviation (Centennial, CO)	Priester Aviation	Charter	
Sep-22	Textar Aviation (Dallas, TX)	Atlantic Aviation	FBO	
Sep-22	Elliot Aviation (Des Moines, IA)	Modern Aviation	FBO	
Sep-22	Odyssey Aviation (2 locations)	Granite Creek Capital Partners	FBO	
Aug-22	Menzies	Agility	Ground Handling	
Aug-22	Four Points Aero Services (Dallas, TX)	Elliot Aviation	MRO	
Aug-22	Blue Heron Aviation (Turks & Caicos)	Atlantic Aviation	FBO	
Jul-22	Skycharter (Halifax, Nova Scotia)	IMP Group	Charter	
Jul-22	Signature Flight Support (3 locations)	Atlantic Aviation	FBO	●
Jul-22	TAC Air (17 locations)	Signature Aviation	FBO	●
May-22	Central Flying Service	Tricoastal Ventures	MRO	
May-22	EB Airfoils (Palm City, FL)	StandardAero	MRO	
May-22	Ross Aviation (16 locations)	Atlantic Aviation	FBO	
May-22	Atlantic Aviation (Stuart, FL)	APP Jet Center	FBO	●
May-22	Air Service Hawaii (6 locations)	Ross Aviation	FBO	
Apr-22	Heliblade (Anderson, CA)	First Aviation Services	MRO	
Apr-22	Air Partner (United Kingdom)	Wheels Up	Charter	
Mar-22	Gulf Coast Aviation (Houston, TX)	Volato	Charter	
Mar-22	West Star Aviation (8 locations)	The Sterling Group	MRO	
Mar-22	Jet Edge International	VistaJet (Rhone Group)	Charter	
Mar-22	Hawthorne Global Aviation Services (6 locations)	Nova Infrastructure and Wafra	FBO / Charter / MRO	●

Recent Debt Capital Markets Transactions

Launch Date	Company	Corporate Rating	Amount (\$ millions)				Term Loan B		2nd Lien
			Total	TLB	RC	2nd Lien	Spread (bps)	Floor (bps)	Spread (bps)
Nov-23	Atlantic Aviation Corporation	B/B2	\$1,069	\$1,069	--	--	350	50	--
Nov-23	TransGigm Inc	B+/B1	\$1,000	\$1,000	--	--	325	--	--
Oct-23	Industria de Turbo Propulsores SA	B/B2	\$200	\$200	--	--	375	50	--
Sep-23	Vertex Aerospace	B1/B+	\$913	\$913	--	--	300	75	--
Aug-23	Standard Aero Holdings Inc	B3/B-	\$257	\$257	--	--	400	--	--
Jul-23	Ontic	B2/B	\$957	\$957	--	--	400	--	--
May-23	Atlantic Aviation	B/B2	\$750	\$750	--	--	400	50	--
Apr-23	Signature Aviation	B+/B2	\$400	\$400	--	--	375	50	--
Feb-23	American Airlines	B-/B2	\$1,000	\$1,000	--	--	275	--	--
Feb-23	Castlelake Aviation	BB-/Ba3	\$635	\$635	--	--	275	50	--
Sep-22	Ontic	B/B2	\$85	\$85	--	--	450	--	--
Jul-22	Atlantic Aviation	B/B2	\$425	\$325	\$100	--	400	50	--
Jun-22	Signature Aviation	B+/B1	\$1,100	\$1,100	--	--	375	50	--
Feb-22	Ontic	B/B2	\$80	\$80	--	--	400	--	--
Oct-21	Signature Aviation	B+/B1	\$330	\$330	--	--	275	50	--
Oct-21	Atlantic Aviation	B/B2	\$330	\$330	--	--	300	50	--
Sep-21	Castlelake Aviation	BB-/Ba3	\$1,730	\$980	\$750	--	275	50	--
Jul-21	Avolon	BBB-/Baa3	\$672	\$672	--	--	225	50	--
Jul-21	Ontic	B/B2	\$140	\$140	--	--	400	--	--
Jul-21	Air Canada	B+/Ba3	\$2,900	\$2,300	\$600	--	350	75	--
Jul-21	Atlantic Aviation	B/B2	\$1,925	\$1,350	\$225	\$350	300	50	575
Apr-21	Gogo	B-/B3	\$825	\$725	\$100	--	375	75	--
Apr-21	Signature Aviation	B+/B1	\$2,035	\$1,685	\$350	--	275	50	--
Apr-21	United Airlines	B+/Ba2	\$6,750	\$5,000	\$1,750	--	375	75	--
Mar-21	American Airlines	B-/B2	\$3,500	\$3,500	--	--	475	75	--
Feb-21	Ontic	B-/B3	\$551	\$551	--	--	400	--	--
Nov-20	Avolon Aerospace	BBB-/Baa3	\$675	\$675	--	--	250	75	--
Sep-20	Fly Leasing	BB/B1	\$180	\$180	--	--	600	100	--
Sep-20	Delta SkyMiles	--	\$3,000	\$3,000	--	--	375	100	--
Jun-20	JetBlue	B+/Ba2	\$750	\$750	--	--	525	100	--
Apr-20	Delta Air Lines	BB/Baa3	\$1,500	\$1,500	--	--	475	100	--
Feb-20	Avolon Aerospace	BBB-/Baa3	\$850	\$850	--	--	150	75	--
Jan-20	American Airlines	BB-/Ba3	\$1,220	\$1,220	--	--	175	--	--
Nov-19	Fly Leasing	BB/Ba3	\$391	\$391	--	--	175	--	--
Oct-19	Air Canada	BB+/Ba1	\$592	\$592	--	--	175	--	--
Oct-19	Ontic	B-/B3	\$740	\$480	\$85	\$175	475	--	850
Jul-19	WestJet Airlines	B+/Ba3	\$2,305	\$1,955	\$350	--	300	100	--
Jul-19	Kaman Distribution	B/B3	\$510	\$320	\$75	\$115	500	--	900
Nov-18	Atlantic Aviation	BB-/Ba3	\$1,325	\$1,025	\$300	--	375	--	--
Oct-18	XOJET	B/B2	\$210	\$210	--	--	575	--	--
Sep-18	Air Transport	--	\$1,220	\$675	\$545	--	NA	--	--
Sep-18	American Airlines	BB-/Ba3	\$500	\$500	--	--	200	--	--
May-18	American Airlines	BB-/Ba3	\$1,825	\$1,825	--	--	175	--	--
Apr-18	Avolon	BB+/Ba2	\$4,750	\$4,750	--	--	200	75	--

Premier, Global Boutique

Globally integrated advisory capabilities, deep sector experience, and unmatched industry intelligence driven by frequent dialogue with the most relevant market participants

Firm Snapshot

24

offices worldwide

~2,000

total employees

~675

investment banking employees

675+

M&A advisory transactions since 2020

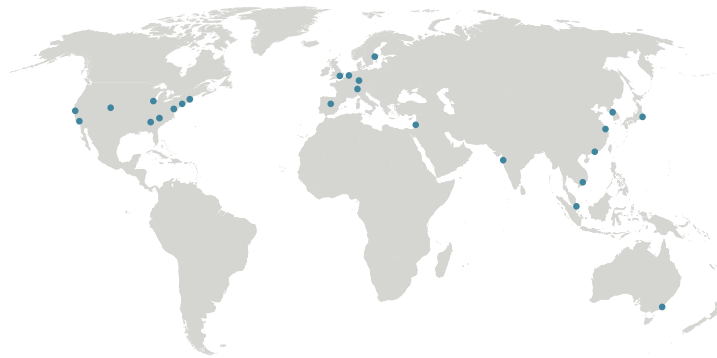
\$745B+

M&A and financing activity since 2019

100%

owned by active partners

Global Footprint



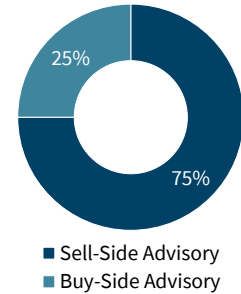
Selected Aviation Services Transaction Experience

 has partnered with a portfolio company of Instar	 a portfolio company of Warburg Pincus has been acquired by 	 has been acquired by a portfolio company of SAR Trilogy Management and Redford Capital Partners	 has been acquired by a portfolio company of Blackstone, Global Infrastructure Partners and Cascade Investment
 a portfolio company of Blackstone, Global Infrastructure Partners & Cascade Investments has divested three FBO locations to a portfolio company of KKR	 a portfolio company of KKR has divested its Stuart, FL location to a portfolio company of Ridgewood Infrastructure	 GLOBAL AVIATION SERVICES a portfolio company of NexPhase has been acquired by 	 has been acquired by
 Follow-on Offering	 has been acquired by J.F. Lehman & Company	 has been acquired by 	 has been acquired by ROSS AVIATION

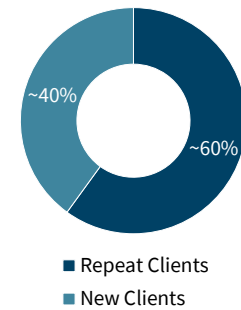
Note: Data is as of December 31, 2023. Map includes strategic partnerships with Allier Capital, BDA Partners, and Poalim Capital Partners.

➤ Represents transactions closed by William Blair employees while at other firms.

M&A Expertise Since 2019



Trusted Advisor Since 2019



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