



Cassel Salpeter & Co.
INVESTMENT BANKING

**Aviation Investment Banking
Q4 2022 Update**

Confidential

Member FINRA | SIPC



James S. Cassel
Chairman
jcassel@cs-ib.com
305-438-7701

Relevant Experience:

- Investment banking for over 26 years

Representative Assignments:



Bankruptcy
\$363 Sale Airlines



Bankruptcy
\$363 Sale Airlines



M&A Sale MRO



Scott E. Salpeter
President
ssalpeter@cs-ib.com
305-438-7702

Relevant Experience:

- Investment banking for over 26 years

Representative Assignments:



Valuation MRO



Valuation MRO



Solvency Opinion Freight & Logistics



Valuation MRO



Joseph "Joey" Smith
Director, Aviation
Services
jsmith@cs-ib.com
305-438-7706

Relevant Experience:

- Investment banking for over 22 years

Representative Assignments:



Capital Raise Aviation Services



Capital Raise Distribution



Capital Raise Distribution



M&A Sale Part 121 Carrier



Philip Cassel
Managing Director



Ira Leiderman
Managing Director



Deborah Aghib
Managing Director



Margery Fischbein
Managing Director



Laura Salpeter
Director



Marcus Wai
Vice President



Chris Mansueto
Vice President



Edward Kropf
Associate



Tahz Rashid
Associate



Charles Davis
Associate



Francisco Belliard
Analyst

Includes projects by our professionals at prior firms.

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AIRBUS & BOEING'S \$3 TRILLION OPPORTUNITY

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M&A & PRIVATE PLACEMENTS REVIEW

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PUBLIC MARKETS REVIEW

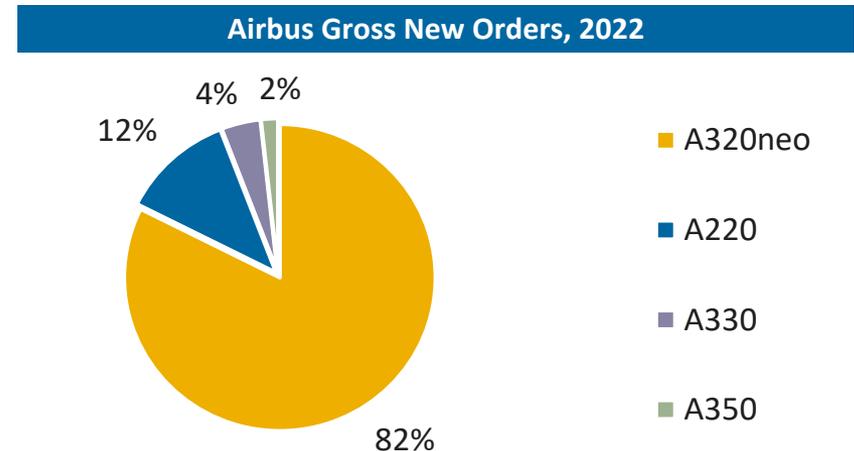
A \$3 TRILLION GLOBAL OPPORTUNITY BY 2040

- The aviation industry has experienced a strong recovery since the days of global lockdowns due to COVID-19 and is now in a position to deliver up to 44,500 new aircraft globally over the next two decades in deals worth approximately \$3 trillion.
- As the industry recovers from the pandemic and its ensuing economic meltdown, aircraft manufacturers have struggled to keep up with the increasing demand from airlines for new planes. Severe staffing and supply shortages blighted production, reducing the number of aircraft that could be built in recent years. Through the fourth quarter of 2022, the situation has improved, and although production remains below pre-pandemic levels, manufacturers seem to be on a corrective course and are expected to return to their pre-pandemic production levels by 2024/2025.
- To service passenger traffic and satisfy demand the global passenger aircraft fleet will need to increase by a net amount of approximately 20,000 planes by 2040, a growth rate of approximately 3.5% annually. Asia is expected to account for nearly 40% of new deliveries, with China representing nearly half of all deliveries in the region. Projected deliveries to China are expected to exceed Europe's delivery total, with China on track to become the second largest market after North America.
- The global increase in demand for new aircraft stems from both an increase in passenger traffic, as well as new demand for more modern, fuel-efficient jets to help the industry and governments meet "net zero" targets.
- The Airbus-Boeing duopoly is projected to manufacture approximately 80% of the new aircraft with their single aisle/narrow body planes continuing to support their dominant market shares. As of late 2022, their combined backlog was over 11,000 aircraft with Airbus in a firm leadership position.



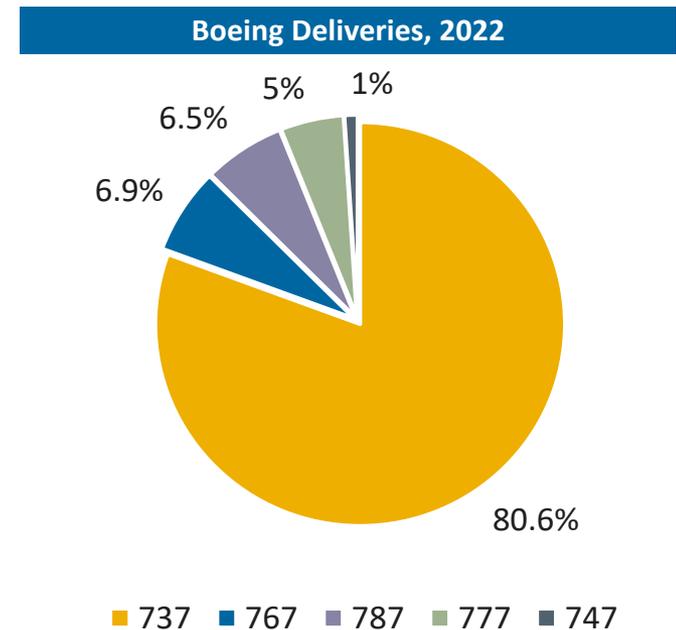
Sources of information: Airline Economics, Ascend by Cirium, Bloomberg.

- Through the fourth quarter of 2022 and into 2023, Airbus continues to hold a dominant market position. This dominance is further solidified by Airbus's share of outstanding single-aisle orders rising significantly against Boeing in 2022. When including the order book for single-aisle aircraft seating 100 or more passengers, Airbus's market share stood at 58% to Boeing's 37%; COMAC, Embraer, and UAC accounted for the balance.
- Airbus delivered 661 commercial aircraft to 84 customers in 2022, representing an increase of 8% over 2021. Airbus registered 1,078 gross new orders (820 net) across all programs, increasing its backlog to an impressive 7,239 aircraft by the end of 2022. The company recorded a net book-to-bill ratio significantly higher than one.
- Airbus's 1,078 gross new orders across all programs and market segments include:
 - 888 gross new orders within the A320neo Family;
 - 127 firm gross new orders for the A220, which has become a strong competitor to Embraer's E195-E2 in the smaller 100-150 seat category; and
 - 63 gross new orders in the widebody segment including 19 A330 aircraft and 44 A350 aircraft, of which 24 were for the newly launched A350F.
- Although Boeing executives believe that their single-aisle market share will remain around 40%, there is the risk that it could dip below 30% without the introduction of a new aircraft before 2035. Airbus and Boeing have both indicated that nearly half of all single-aisle deliveries will replace older-generation aircraft.
- To add insult to injury, with more Airbus A320ceo operators flying globally than operators of Boeing's 737NGs, Airbus will benefit from more opportunities for new orders from a more diverse group of airlines over the coming decades. With no new single-aisle families entering service in the next 10 years, the best way to gain market share will be to convince operators to "flip."



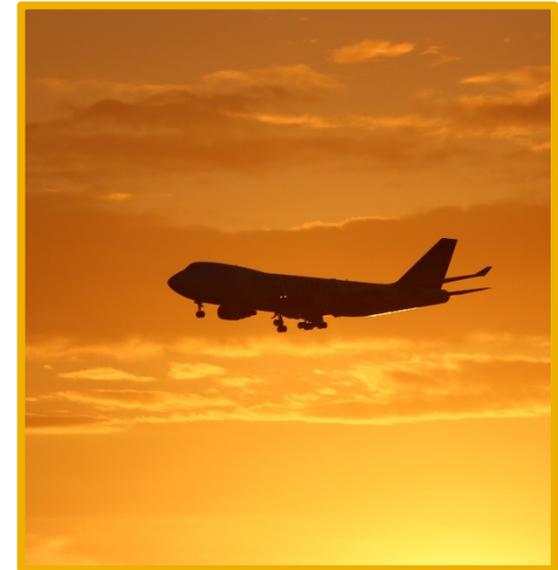
Sources of information: Airbus, Leeham News.

- Boeing showed promise in 2022, reporting 774 commercial orders, compared with 479 orders in 2021. After cancellations and conversions, the total included 561 orders for aircraft in the 737 family and 213 orders for the company's market-leading twin-aisle airplanes. By the end of 2022, Boeing's commercial airplane backlog was 4,578 aircraft.
- Boeing's performance in the last quarter of 2022 was excellent, and hopefully portends a positive trend for 2023 and beyond to narrow the gap with Airbus. Boeing delivered 148 commercial aircraft in the fourth quarter of 2022 and a total of 480 for the year. This marks a 40% uptick from the 340 deliveries made in 2021. December 2022 was Boeing's busiest single month in four years with an impressive 69 deliveries made.
- 2022 was the manufacturer's busiest year since 2018, when Boeing delivered 806 aircraft. The increased pace of deliveries will provide a much-needed boost to Boeing after what have been a turbulent few years marred by controversy, aircraft groundings (737MAX and 787), and the COVID-19 pandemic.
- A closer look at the 480 aircraft delivered in 2022 highlights the dominance of the narrow body/single aisle 737 within the Boeing family. The numbers of aircraft to commercial and cargo operators were: 387 Boeing 737 aircraft, 5 Boeing 747 aircraft, 33 Boeing 767 aircraft, 24 Boeing 777 aircraft, and 31 Boeing 787 aircraft.
- The Boeing 737 took the crown in 2022, with 387 deliveries throughout the year. This was driven by the worldwide popularity of the Boeing 737MAX aircraft, of which 53 were delivered in December alone. Boeing has confirmed that its current Boeing 737 production rate sits at 31 per month.
- It is worth mentioning that the Boeing 787 had some catching up to do. Deliveries of the aircraft were halted by the Federal Aviation Administration in May 2021 following concerns about Boeing's inspection methods. Boeing was able to resume deliveries in August 2022, delivering 31 787s since that date.



Sources of information: Boeing, Simple Flying.

- In January 2023, Boeing delivered its final 747, a 747-8F freighter, to Atlas Air, the world's largest operator of 747s. The delivery closes the door to more than five decades of Boeing history and 747 deliveries. The 747, dubbed the “Queen of the Skies,” is one of the most iconic aircraft in aviation history, and was the original jumbo jet, whose four-engine variations included passenger, freighter, business, military, and civil aircraft.
- After a 50-year plus production run, numbering 1,574 jumbo jets at Boeing’s plant at Everett’s Paine Field, the final aircraft rolled off the production line on December 6, 2022. Boeing started construction on its 1.9 million sq. ft. factory in Everett, Washington (22 miles north of Seattle) in 1967. Over the years, the main building expanded to 4.3 million sq. ft., encompassing 98 acres, making it the largest building in the world.
- Pan Am was the launch customer for the first 747 created, the 747-100. At the time, Pan Am placed an order for 25 of the sensational new jumbo jets. The first aircraft was delivered in January 1970, christened by First Lady Pat Nixon, and nicknamed “Clipper Victor.” Since then, a total of 46 airlines have operated 747s, with approximately half of them being the 747-400. The 747 has been used over the years to carry the U.S. president and his staff, flying as “Air Force One.”
- While December 2022 marks the end of production for the 747, it is not the end for the aircraft by any means. Many cargo airlines will rely on the jumbo jets for years to come. Although passenger operations are less common, there remain several opportunities to fly on the 747 if that’s on your bucket list. Four airlines provide active jumbo jet passenger service: China Airlines, Korean Air, Lufthansa, and Asiana Airlines. As of year-end 2022, there were 450 Boeing 747 aircraft still in active service.
- The main appeal of the 747, like its predecessors, was its tremendous range and its great passenger and payload capacity. Boeing has slowly replaced its original jumbo jet with wide-body twin-engine aircraft of similar range, such as the Boeing 777 and Boeing 787 Dreamliner. We bid farewell to the last brand-new Boeing 747 to roll off the factory floor. **May she fly high and fare well over the, hopefully, many years of useful service she will see!**



Sources of information: Boeing, Cirium, Simple Flying, Wiki.

I AIRBUS & BOEING'S \$3 TRILLION OPPORTUNITY

II M&A & PRIVATE PLACEMENTS REVIEW

III PUBLIC MARKETS REVIEW

Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise Value	Metrics			Valuation Benchmarks			
Closed	Anncl.	Target	Acquirer		Target Trailing Twelve Months (TTM)			Implied Enterprise Value (EV) /			
					Revenue	EBITDA %	EBIT %	Revenue	EBITDA	EBIT	
2022 4th Quarter M&A Transactions											
10-Jan-23	13-Oct-22	Frontgrade Technologies	Veritas Capital Fund Management, L.L.C	na	na	na	na	na	na	na	
21-Dec-22	21-Dec-22	Summit Aircraft Corporation	Cub Crafters, Inc.	na	na	na	na	na	na	na	
na	18-Dec-22	Aerojet Rocketdyne Holdings, Inc.	L3Harris Technologies, Inc.	\$ 4,783.8	2,179.1	13.8%	9.2%	2.20x	15.90x	21.3x	
na	16-Dec-22	Maxar Technologies Inc.	Advent International Corporation; British Columbia Investment Management Corporation	6,542.0	1,747.0	26.3%	na	3.74x	14.23x	43.6x	
13-Dec-22	15-Sep-22	Sequa Corporation	Veritas Capital Fund Management, L.L.C	1,900.0	na	na	na	na	na	na	
8-Dec-22	8-Dec-22	Applied Aerospace Structures, Corp.	Greenbriar Equity Group, L.P.	na	na	na	na	na	na	na	
29-Nov-22	29-Nov-22	Associated Aircraft Manufacturing & Sales, Inc.	First Aviation Services Inc.	na	na	na	na	na	na	na	
23-Nov-22	5-Aug-22	E3 Federal Solutions, LLC	QinetiQ North America, Inc.	590.0	298.0	11.9%	na	1.98x	16.62x	18.4x	
16-Nov-22	16-Nov-22	Keronite Group Limited	Curtiss-Wright Corporation	35.0	na	na	na	na	na	na	
7-Nov-22	5-May-22	Avcorp Industries Inc.	Latécoère S.A.	107.6	80.6	na	na	1.34x	na	na	
4-Nov-22	4-Nov-22	Syrlinks	Safran SA	na	23.8	na	na	na	na	na	
1-Nov-22	26-Oct-22	Timken Aerospace Drive Systems, LLC	PCX Aerostructures, LLC	na	na	na	na	na	na	na	
31-Oct-22	3-Oct-22	QinetiQ Space N.V.	Redwire Corporation	31.6	48.2	na	na	0.65x	na	na	
30-Oct-22	2-Aug-22	Cobham Aviation Services Australia's Special Mission business	Leidos Holdings, Inc.	195.2	na	na	na	na	na	na	
26-Oct-22	4-Oct-22	Linstol USA, LLC	The Hoffmann Family of Companies	na	na	na	na	na	na	na	
18-Oct-22	18-Oct-22	Aviatron Inc.	Wencor Group, LLC	na	na	na	na	na	na	na	
14-Oct-22	16-Mar-22	EverWatch Corporation	Booz Allen Hamilton Holding Corporation	440.0	na	na	na	na	na	na	
na	13-Oct-22	Mystic Jet Center/Columbia Air Services-BHB/Columbia Air Services-RUT	Modern Aviation Inc.	na	na	na	na	na	na	na	
11-Oct-22	11-Oct-22	CAVU Component Repair, LLC	Unical Aviation, Inc.	na	na	na	na	na	na	na	
4-Oct-22	4-Oct-22	Aircrafters, Inc.	AeroRepair Corp.	na	na	na	na	na	na	na	
				Mean	\$ 1,625.0	\$ 729.4	17.3%	9.2%	1.98x	15.58x	27.8x
				Median	\$ 440.0	\$ 189.3	13.8%	9.2%	1.98x	15.90x	21.3x

Sources of Information: S&P Capital IQ and Pitchbook.

SELECTED PRIVATE PLACEMENTS

Selected Private Placements Review

(\$ in millions)

Anncd. Date	Target	Investors	Raise	Round Type	Round Number
2022 4th Quarter Private Placements					
20-Dec-22	Maeve Aerospace B.V	European Innovation Council (EIC) Fund	\$ 15.9	Venture	2
16-Dec-22	Cub Crafters, Inc.	Crowd-funding via Title3Funds LLC	5.0	Crowd-Funding	1
13-Dec-22	Quantum Space, LLC	Prime Movers Lab	15.0	Series A	1
21-Nov-22	Unusual Machines, Inc.	Red Cat Holdings, Inc.	13.0	Venture	1
17-Nov-22	Gravitics, Inc.	Helios Capital; FJ Labs, Inc.; Manhattan West Asset Management, LLC; Gaingels, LLC; Mana Ventures LLC; Type One Ventures; The Venture Collective LLC	20.0	Seed	1
14-Nov-22	Open Joint Stock Company Research & Production Association Iskra	State Space Corporation ROSCOSMOS; Federal Agency for State Property Management	196.3	Growth	3
4-Nov-22	Virgin Orbit Holdings, Inc.	Virgin Investments Limited	25.0	PIPE	3
2-Nov-22	Lilium N.V.	Honeywell International Inc.; Aciturri Aeronáutica, S.L.U.; LGT Global Invest Ltd.; LGT Capital Partners (Ireland) Ltd.; Lumen Investments S.à r.l.; Lightrock LLP; Lightrock Growth Fund I S.a. Sicav-Raif	89.7	PIPE	6
1-Nov-22	VoltAero SAS	Tesi S.r.l. Technologie E Servizi Innovativi	31.6	Series B	1
31-Oct-22	Terran Orbital Corporation	Lockheed Martin Ventures	100.0	PIPE	6
27-Oct-22	Industria de Turbo Propulsores, S.A.	Bain Capital Private Equity, LP; Basque Institute of Finance; Finkatuz Fund	na	Venture	1
18-Oct-22	Orbital Express Launch Limited	Jacobs Solutions Inc.; Octopus Ventures Ltd.; High-Tech Gründerfonds Management GmbH; BGF Investment Management Ltd.; Verve Capital Partners AG; Heartcore Capital A/S	45.6	Series C	4
16-Oct-22	Quantum-Systems GmbH	Bayern Kapital GmbH; Project A Ventures GmbH & Co. KG; 10x GmbH; Sanno Capital GmbH	17.5	Venture	3
11-Oct-22	Acro Aircraft Seating Limited	Acro Holdings Limited	33.3	Growth	2
10-Oct-22	Universal Hydrogen Co.	American Airlines Group Inc.	na	Venture	5
3-Oct-22	Redwire Corporation	Bain Capital, LP; AE Industrial Partners, LP	80.0	PIPE	3
		<i>Mean</i>	\$ 49.1		
		<i>Median</i>	\$ 28.3		

Sources of information: S&P Capital IQ and Pitchbook.

I AIRBUS & BOEING'S \$3 TRILLION OPPORTUNITY

II M&A & PRIVATE PLACEMENTS REVIEW

III PUBLIC MARKETS REVIEW

SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

(\$ in thousands, except per security)

Company	Ticker	Market Statistics			Metrics				Valuation Benchmarks				
		Closing Price	% of 52-week	Enterprise	Revenue	EBITDA	EBITDA	EBITDA	EV / Revenue		EV / EBITDA		
		31-Dec-22	High-Low	Value	LTM	LTM	LTM Margin	2023 E Growth	LTM	2022 E	LTM	2022 E	
Airlines													
Alaska Air Group, Inc.	ALK	\$ 42.94	69.8% - 112.5%	\$ 6,251.4	\$ 9,066.0	\$ 1,092.0	12.0%	9.9%	0.69x	0.64x	5.7x	4.3x	
Allegiant Travel Company	ALGT	\$ 67.99	34.7% - 108.0%	2,349.1	2,187.2	219.1	10.0%	49.9%	1.07x	1.03x	10.7x	7.8x	
American Airlines Group Inc.	AAL	\$ 12.72	59.4% - 109.2%	41,716.7	45,210.0	2,400.0	5.3%	28.1%	0.92x	0.86x	17.4x	8.8x	
Delta Air Lines, Inc.	DAL	\$ 32.86	71.0% - 120.8%	44,598.9	46,617.0	4,472.0	9.6%	30.2%	0.96x	0.89x	10.0x	7.5x	
Frontier Group Holdings, Inc.	ULCC	\$ 10.27	67.3% - 125.4%	4,470.9	3,029.0	(176.0)	-5.8%	60.6%	1.48x	1.33x	na	7.9x	
Hawaiian Holdings, Inc.	HA	\$ 10.26	47.3% - 106.4%	1,268.4	2,405.0	(438.9)	-18.2%	530.4%	0.53x	0.48x	na	21.4x	
JetBlue Airways Corporation	JBLU	\$ 6.48	39.5% - 104.9%	4,553.7	8,577.0	137.0	1.6%	138.4%	0.53x	0.50x	33.2x	9.3x	
Mesa Air Group, Inc.	MESA	\$ 1.53	24.8% - 148.5%	631.7	531.0	61.9	11.7%	26.1%	1.19x	1.23x	10.2x	7.5x	
SkyWest, Inc.	SKYW	\$ 16.51	38.4% - 111.9%	3,434.6	3,100.8	657.7	21.2%	-18.7%	1.11x	1.10x	5.2x	4.9x	
Southwest Airlines Co.	LUV	\$ 33.50	66.9% - 110.9%	16,430.6	22,693.0	2,719.0	12.0%	21.4%	0.72x	0.68x	6.0x	4.8x	
Spirit Airlines, Inc.	SAVE	\$ 19.48	68.8% - 122.4%	6,367.6	4,664.7	(48.2)	-1.0%	104.4%	1.37x	1.25x	na	14.4x	
Sun Country Airlines Holdings, Inc.	SNCY	\$ 15.86	51.8% - 119.7%	1,317.3	839.8	115.7	13.8%	75.9%	1.57x	1.47x	11.4x	10.5x	
United Airlines Holdings, Inc.	UAL	\$ 37.70	71.0% - 123.4%	32,006.2	40,747.0	3,089.0	7.6%	40.4%	0.79x	0.71x	10.4x	6.5x	
			<i>Mean</i>	\$ 12,722.9	\$ 14,589.8	\$ 1,100.0	6.1%	84.4%	0.99x	0.94x	12.0x	8.9x	
			<i>Median</i>	\$ 4,553.7	\$ 4,664.7	\$ 219.1	9.6%	40.4%	0.96x	0.89x	10.3x	7.8x	
MRO, Parts & Supply Chain													
AAR Corp.	AIR	\$ 44.90	85.0% - 133.0%	\$ 1,735.7	\$ 1,844.4	\$ 161.8	8.8%	17.3%	na	na	na	na	
AerSale Corporation	ASLE	\$ 16.22	74.5% - 126.9%	661.4	430.2	77.4	18.0%	12.9%	na	na	na	na	
HEICO Corporation	HEI	\$ 153.54	92.6% - 120.9%	19,039.2	2,208.3	585.5	26.5%	12.9%	na	na	na	na	
MTU Aero Engines AG	XTRA:MTX	\$ 216.09	91.5% - 135.5%	12,282.1	4,901.0	637.4	13.0%	17.6%	na	na	na	na	
Singapore Technologies (ST Aerospace)	SGX:S63	\$ 2.50	79.4% - 107.4%	12,153.6	5,974.7	722.9	12.1%	13.2%	na	na	na	na	
TAT Technologies Ltd.	TATT	\$ 5.30	75.8% - 102.5%	69.4	82.1	(1.4)	-1.7%	na	na	na	na	na	
VSE Corporation	VSEC	\$ 46.88	75.0% - 147.2%	920.6	925.6	80.2	8.7%	14.7%	na	na	na	na	
			<i>Mean</i>	\$ 6,694.6	\$ 2,338.0	\$ 323.4	12.2%	14.8%	na	na	na	na	
			<i>Median</i>	\$ 1,735.7	\$ 1,844.4	\$ 161.8	12.1%	13.9%	na	na	na	na	

Market value equals price per share times number of diluted shares outstanding. Enterprise value equals market value plus debt, preferred stock, and non controlling interests, less cash.

Sources of information: S&P Capital IQ.

SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

(\$ in thousands, except per security)

Company	Ticker	Market Statistics			Metrics					Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	EBITDA	EBITDA	EBITDA	EV / Revenue		EV / EBITDA		
		31-Dec-22	High-Low	Value	LTM	LTM	LTM Margin	2023 E Growth	LTM	2022 E	LTM	2022 E	
Aerostructures & Component Manufacturers													
Air Industries Group	AIRI	\$ 4.25	42.1% - 104.4%	\$ 42.0	\$ 54.8	\$ 5.1	9.3%	21.6%	0.77x	0.79x	8.3x	9.7x	
ATI Inc.	ATI	\$ 29.86	89.6% - 186.4%	5,748.5	3,591.0	471.5	13.1%	13.4%	1.60x	1.49x	12.2x	10.5x	
Astronics Corporation	ATRO	\$ 10.30	69.3% - 138.1%	501.6	492.8	(14.7)	-3.0%	1477.2%	1.02x	0.96x	na	217.2x	
CPI Aerostructures, Inc.	CVU	\$ 3.20	80.8% - 372.1%	65.8	85.6	4.4	5.2%	na	0.77x	na	14.8x	na	
Hexcel Corporation	HXL	\$ 58.85	89.4% - 124.2%	5,667.2	1,508.6	289.1	19.2%	24.2%	3.76x	3.65x	19.6x	18.9x	
Honeywell International Inc.	HON	\$ 214.30	96.6% - 128.6%	155,767.7	34,937.0	8,499.0	24.3%	6.5%	4.46x	4.38x	18.3x	17.4x	
Howmet Aerospace Inc.	HWM	\$ 39.41	99.1% - 134.3%	20,219.9	5,435.0	1,232.0	22.7%	14.0%	3.72x	3.60x	16.4x	15.9x	
Ducommun Incorporated	DCO	\$ 49.96	85.9% - 128.5%	873.7	689.1	76.3	11.1%	11.4%	1.27x	1.23x	11.4x	9.2x	
FACC AG	WBAG:FACC	\$ 6.06	59.3% - 102.5%	531.9	548.0	14.3	2.6%	22.6%	0.97x	0.89x	37.1x	9.9x	
Héroux-Devtek Inc.	TSX:HRX	\$ 9.71	70.7% - 117.4%	446.8	382.7	42.1	11.0%	25.1%	1.17x	1.13x	10.6x	8.8x	
Innovative Solutions and Support, Inc.	ISSC	\$ 8.22	83.0% - 142.5%	125.2	27.7	7.6	27.3%	na	4.51x	na	16.5x	na	
JAMCO Corporation	TSE:7408	\$ 10.40	76.4% - 203.4%	627.0	260.2	(0.9)	-0.4%	na	2.41x	1.75x	na	na	
Kaman Corporation	KAMN	\$ 22.30	48.0% - 118.1%	1,211.5	666.0	80.1	12.0%	20.1%	1.82x	1.74x	15.1x	15.6x	
Latécoère S.A.	ENXTPA:LAT	\$ 0.35	58.2% - 103.1%	370.9	461.0	(39.1)	-8.5%	-879.5%	0.80x	0.73x	na	na	
Lisi S.A.	ENXTPA:FII	\$ 20.80	63.0% - 113.9%	1,432.9	1,358.6	151.0	11.1%	21.2%	1.05x	0.95x	9.5x	7.1x	
Magellan Aerospace Corporation	TSX:MAL	\$ 7.39	98.0% - 151.5%	448.9	545.9	21.1	3.9%	40.9%	0.82x	0.78x	21.3x	11.7x	
Moog Inc.	MOG.A	\$ 87.76	97.5% - 124.9%	3,633.7	3,035.8	351.0	11.6%	15.4%	1.20x	1.19x	10.4x	10.0x	
Moog Inc.	MOG.A	\$ 87.76	97.5% - 124.9%	3,633.7	3,035.8	351.0	11.6%	15.4%	1.20x	1.19x	10.4x	10.0x	
Senior plc	LSE:SNR	\$ 1.51	81.7% - 112.8%	800.9	884.7	73.0	8.3%	na	0.91x	0.81x	11.0x	na	
SIFCO Industries, Inc.	SIF	\$ 2.16	27.2% - 110.8%	46.6	83.9	(7.6)	-9.0%	na	0.56x	na	na	na	
Spirit AeroSystems Holdings, Inc.	SPR	\$ 29.60	55.5% - 140.0%	6,312.8	4,779.6	142.5	3.0%	157.6%	1.32x	1.24x	44.3x	24.4x	
Triumph Group, Inc.	TGI	\$ 10.52	37.8% - 134.2%	2,170.2	1,362.9	154.5	11.3%	18.1%	1.59x	1.61x	14.0x	12.7x	
TransDigm Group Incorporated	TDG	\$ 629.65	92.0% - 126.0%	51,000.0	5,429.0	2,468.0	45.5%	13.4%	9.39x	9.09x	20.7x	18.5x	
Woodward, Inc.	WWD	\$ 96.61	74.8% - 121.9%	6,575.6	2,382.8	327.2	13.7%	22.0%	2.76x	2.69x	20.1x	18.6x	
		<i>Mean</i>	<i>73.9% - 140.2%</i>	<i>\$ 1,177.3</i>	<i>\$ 3,001.6</i>	<i>\$ 612.4</i>	<i>10.7%</i>	<i>55.8%</i>	<i>2.08x</i>	<i>1.99x</i>	<i>17.1x</i>	<i>24.8x</i>	
		<i>Median</i>	<i>78.6% - 125.5%</i>	<i>\$ 1,042.6</i>	<i>\$ 786.9</i>	<i>\$ 78.2</i>	<i>11.1%</i>	<i>20.1%</i>	<i>1.23x</i>	<i>1.23x</i>	<i>15.0x</i>	<i>12.2x</i>	

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SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

(\$ in thousands, except per security)

Company	Ticker	Market Statistics			Metrics					Valuation Benchmarks			
		Closing Price	% of 52-week	Enterprise	Revenue	EBITDA	EBITDA	EBITDA	EV / Revenue		EV / EBITDA		
		31-Dec-22	High-Low	Value	LTM	LTM	LTM Margin	2023 E Growth	LTM	2022 E	LTM	2022 E	
Aviation Services													
Atlas Air Worldwide Holdings, Inc.	AAWW	\$ 100.80	99.2% - 171.7%	\$ 4,576.4	\$ 4,504.7	\$ 926.5	20.6%	0.8%	1.02x	0.99x	4.9x	5.0x	
AerCap Holdings N.V.	AER	\$ 58.32	84.1% - 156.8%	60,304.3	6,558.2	3,075.9	46.9%	23.7%	9.20x	8.38x	19.6x	12.7x	
Air T, Inc.	AIRT	\$ 24.72	83.7% - 176.4%	234.2	208.4	12.7	6.1%	na	1.12x	na	18.5x	na	
Air Lease Corporation	AL	\$ 38.42	81.7% - 129.1%	21,927.8	2,312.9	na	na	75.0%	9.48x	9.46x	na	15.8x	
Air Transport Services Group, Inc.	ATSG	\$ 25.98	75.2% - 111.4%	3,361.6	1,994.8	632.1	31.7%	8.9%	1.69x	1.61x	5.3x	5.2x	
Blade Air Mobility, Inc.	BLDE	\$ 3.58	36.2% - 118.5%	97.3	163.9	(48.1)	-29.4%	8.2%	0.59x	0.68x	na	na	
CAE Inc.	TSX:CAE	\$ 19.35	73.8% - 125.3%	8,581.5	2,716.9	409.6	15.1%	34.5%	3.16x	2.96x	21.0x	14.4x	
Gogo Inc.	GOGO	\$ 14.76	62.3% - 127.6%	2,513.7	388.2	145.5	37.5%	0.4%	6.48x	6.24x	17.3x	14.9x	
Maxar Technologies Inc.	MAXR	\$ 51.74	99.6% - 295.5%	6,232.6	1,747.0	418.0	23.9%	25.4%	3.57x	3.61x	14.9x	14.7x	
Wheels Up Experience Inc.	UP	\$ 1.03	21.7% - 105.1%	86.5	1,516.5	(295.1)	-19.5%	-38.1%	0.06x	0.06x	na	na	
			<i>Mean</i>	<i>71.8% - 151.7%</i>	<i>\$ 10,791.6</i>	<i>\$ 2,211.2</i>	<i>\$ 586.3</i>	<i>14.8%</i>	<i>15.4%</i>	<i>3.64x</i>	<i>3.78x</i>	<i>14.5x</i>	<i>11.8x</i>
			<i>Median</i>	<i>78.5% - 128.4%</i>	<i>\$ 3,969.0</i>	<i>\$ 1,870.9</i>	<i>\$ 409.6</i>	<i>20.6%</i>	<i>8.9%</i>	<i>2.42x</i>	<i>2.96x</i>	<i>17.3x</i>	<i>14.4x</i>
Next Gen & Space Tech													
Archer Aviation Inc.	ACHR	\$ 1.87	29.4% - 115.4%	\$ (120.3)	na	\$ (272.5)	na	34.4%	na	na	na	na	
Astra Space, Inc.	ASTR	\$ 0.43	6.2% - 107.1%	(19.6)	9.4	(252.8)	-2698.5%	-29.2%	-2.10x	-1.47x	na	na	
AST SpaceMobile, Inc.	ASTS	\$ 4.82	33.8% - 135.8%	396.7	20.0	(127.3)	-635.2%	5.8%	19.79x	28.69x	na	na	
Joby Aviation, Inc.	JOBY	\$ 3.35	44.1% - 106.3%	1,030.3	na	(346.1)	na	3.3%	na	na	na	na	
Lilium N.V.	LILM	\$ 1.14	13.9% - 104.6%	224.0	na	(336.0)	na	5.3%	na	na	na	na	
Momentum Inc.	MNTS	\$ 0.78	16.5% - 111.4%	8.4	0.2	(102.0)	-56958.1%	-27.7%	46.78x	2.15x	na	na	
Redwire Corporation	RDW	\$ 1.98	22.6% - 118.6%	228.2	147.9	(30.8)	-20.8%	-200.0%	1.54x	1.53x	na	na	
Rocket Lab USA, Inc.	RKLB	\$ 3.77	30.6% - 108.3%	1,472.7	186.7	(96.4)	-51.6%	-17.0%	7.89x	7.16x	na	na	
Spire Global, Inc.	SPIR	\$ 0.96	26.6% - 111.2%	160.2	72.9	(53.3)	-73.1%	-64.4%	2.20x	1.97x	na	na	
Virgin Galactic Holdings, Inc.	SPCE	\$ 3.48	25.3% - 107.2%	361.2	1.6	(414.6)	-26174.1%	-9.4%	228.05x	206.92x	na	na	
			<i>Mean</i>	<i>24.9% - 112.6%</i>	<i>\$ 374.2</i>	<i>\$ 62.7</i>	<i>\$ (203.2)</i>	<i>-12373.1%</i>	<i>-29.9%</i>	<i>43.45x</i>	<i>35.28x</i>	<i>na</i>	<i>na</i>
			<i>Median</i>	<i>25.9% - 109.8%</i>	<i>\$ 226.1</i>	<i>\$ 20.0</i>	<i>\$ (190.1)</i>	<i>-635.2%</i>	<i>-13.2%</i>	<i>7.89x</i>	<i>2.15x</i>	<i>na</i>	<i>na</i>

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SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

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		31-Dec-22	High-Low	Value	LTM	LTM	LTM Margin	2023 E Growth	LTM	2022 E	LTM	2022 E	
Airframe & Engine OEM													
Airbus SE	ENXTPA:AIR	\$ 118.65	91.7% - 128.3%	\$ 89,645.1	\$ 54,042.9	\$ 6,565.0	12.1%	18.4%	1.66x	1.41x	13.7x	10.6x	
The Boeing Company	BA	\$ 190.49	82.9% - 168.5%	156,698.8	61,421.0	(2,681.0)	-4.4%	-7805.7%	2.55x	2.37x	na	na	
Bombardier Inc.	TSX:BBD.B	\$ 38.62	94.2% - 285.6%	9,720.6	6,029.0	488.0	8.1%	32.8%	1.61x	1.48x	19.9x	11.0x	
Dassault Aviation Société anonyme	ENXTPA:AM	\$ 169.07	95.1% - 167.5%	7,493.6	7,599.3	736.0	9.7%	2.2%	0.99x	1.14x	10.2x	11.4x	
Embraer S.A.	BOVESPA:EMBR3	\$ 2.71	55.9% - 133.1%	3,786.6	3,746.4	(92.3)	-2.5%	26.8%	1.01x	0.83x	na	9.1x	
General Electric Company	GE	\$ 65.38	63.0% - 109.1%	109,555.7	75,072.0	7,414.0	9.9%	26.2%	1.46x	1.44x	14.8x	12.5x	
Rolls-Royce Holdings plc	LSE:RR.	\$ 1.12	71.9% - 144.6%	15,889.9	14,167.3	1,239.4	8.7%	21.6%	1.12x	1.13x	12.8x	10.1x	
Safran SA	ENXTPA:SAF	\$ 124.95	97.4% - 133.1%	54,039.4	17,977.2	3,311.7	18.4%	21.9%	3.01x	2.67x	16.3x	14.1x	
Textron Inc.	TXT	\$ 70.80	89.1% - 124.0%	16,894.0	12,555.0	1,510.0	12.0%	7.2%	1.35x	1.31x	11.2x	10.9x	
		<i>Mean</i>	<i>82.4% - 154.9%</i>	<i>\$ 51,524.9</i>	<i>\$ 28,067.8</i>	<i>\$ 2,054.5</i>	<i>8.0%</i>	<i>-849.8%</i>	<i>1.64x</i>	<i>1.53x</i>	<i>14.1x</i>	<i>11.2x</i>	
		<i>Median</i>	<i>89.1% - 133.1%</i>	<i>\$ 16,894.0</i>	<i>\$ 14,167.3</i>	<i>\$ 1,239.4</i>	<i>9.7%</i>	<i>21.6%</i>	<i>1.46x</i>	<i>1.41x</i>	<i>13.7x</i>	<i>10.9x</i>	
Defense Contractors													
AeroVironment, Inc.	AVAV	\$ 85.66	75.1% - 164.6%	\$ 2,248.5	\$ 442.8	\$ 42.7	9.6%	69.0%	5.08x	4.69x	52.7x	29.6x	
BAE Systems plc	LSE:BA.	\$ 10.31	98.1% - 160.6%	37,879.4	24,206.8	2,591.9	10.7%	7.7%	1.56x	1.37x	14.6x	10.2x	
Elbit Systems Ltd.	TASE:ESLT	\$ 162.78	70.8% - 111.4%	8,402.3	5,499.4	486.4	8.8%	16.4%	1.53x	1.51x	17.3x	15.2x	
General Dynamics Corporation	GD	\$ 248.11	96.6% - 123.7%	79,094.4	38,848.0	5,322.0	13.7%	10.7%	2.04x	2.01x	14.9x	15.4x	
Herkules S.A.	HRS	\$ 0.17	43.1% - 129.4%	31.0	33.4	0.3	1.0%	na	0.93x	na	90.7x	na	
Huntington Ingalls Industries, Inc.	HII	\$ 230.68	88.7% - 130.2%	12,293.9	10,541.0	1,147.0	10.9%	10.7%	1.17x	1.16x	10.7x	13.4x	
Kratos Defense & Security Solutions, Inc.	KTOS	\$ 10.32	46.4% - 115.9%	1,578.3	860.6	39.6	4.6%	29.0%	1.83x	1.77x	39.9x	21.5x	
L3Harris Technologies, Inc.	LHX	\$ 208.21	74.4% - 102.9%	47,178.6	16,834.0	3,454.0	20.5%	9.9%	2.80x	2.80x	13.7x	14.6x	
Leonardo S.p.a.	BIT:LDO	\$ 8.61	74.0% - 133.3%	9,721.0	14,206.7	1,413.0	9.9%	9.1%	0.68x	0.61x	6.9x	5.4x	
Lockheed Martin Corporation	LMT	\$ 486.49	97.5% - 137.8%	136,546.4	64,722.0	8,623.0	13.3%	2.1%	2.11x	2.09x	15.8x	14.1x	
Mercury Systems, Inc.	MRCY	\$ 44.74	61.9% - 110.5%	3,135.3	990.8	154.1	15.6%	13.1%	3.16x	3.12x	20.3x	16.0x	
Northrop Grumman Corporation	NOC	\$ 545.61	98.1% - 149.6%	96,558.0	35,208.0	8,580.0	24.4%	5.8%	2.74x	2.67x	11.3x	19.9x	
Raytheon Technologies Corporation	RTX	\$ 100.92	95.2% - 125.7%	180,196.0	66,025.0	11,370.0	17.2%	12.1%	2.73x	2.68x	15.8x	15.0x	
Thales S.A.	ENXTPA:HO	\$ 127.50	91.0% - 159.2%	28,145.3	17,540.8	2,116.6	12.1%	9.6%	1.60x	1.50x	13.3x	9.8x	
		<i>Mean</i>	<i>79.3% - 132.5%</i>	<i>\$ 45,929.2</i>	<i>\$ 21,139.9</i>	<i>\$ 3,238.6</i>	<i>12.3%</i>	<i>15.8%</i>	<i>2.14x</i>	<i>2.15x</i>	<i>24.1x</i>	<i>15.4x</i>	
		<i>Median</i>	<i>81.9% - 129.8%</i>	<i>\$ 20,219.6</i>	<i>\$ 15,520.4</i>	<i>\$ 1,764.8</i>	<i>11.5%</i>	<i>10.7%</i>	<i>1.93x</i>	<i>2.01x</i>	<i>15.3x</i>	<i>15.0x</i>	

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Sources of information: S&P Capital IQ.

James S. Cassel

Chairman

jcassel@cs-ib.com

305-438-7701

Scott E. Salpeter

President

ssalpeter@cs-ib.com

305-438-7702

Joseph “Joey” Smith

Director, Aviation Services

jsmith@cs-ib.com

305-438-7706

801 Brickell Ave.

Suite 1900

Miami, Florida 33131

www.casselsalpeter.com

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