



Cassel Salpeter & Co.  
INVESTMENT BANKING

**Aviation Investment Banking  
Q4 2019 & Year-End Update**

Confidential

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**Representative Assignments:**

- Sale: Gulfstream International Airlines
- Sale: Tradewinds Engine Group



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**Representative Assignments:**

- Valuation: Flightstar Aircraft Services
- Valuation: Global Engine Maintenance
- Solvency: AmeriJet International
- Valuation: Avborne Heavy Maintenance



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**Representative Assignments:**

- Capital Raise: Avenger Flight Group
- Capital Raise: Diversified Aero Services
- Capital Raise: Alaris Aerospace Systems



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 Managing Director



Deborah Aghib  
 Managing Director



Margery Fischbein  
 Managing Director



Marcus Wai  
 Vice President



Chris Mansueto  
 Vice President



Laura Salpeter  
 Vice President



Julian Astrove  
 Associate



Daniela Lopez  
 Analyst

**I** **AEROSPACE & DEFENSE REVIEW**

**II** **M&A & PRIVATE PLACEMENT TRANSACTIONS**

**III** **PUBLIC MARKETS OVERVIEW**

- We offer our 2019 review to highlight our previous quarterly recaps and discuss both the positive and challenging industry issues moving forward. Please refer to prior quarterly reports for in-depth analyses (<https://www.casselsalpeter.com/knowledge/aviation-deal-reports/>).
- Our Q1 Recap focused on the major headlines regarding the Boeing nightmare, specifically, flaws in the system, airline market disruptions, and proposed recovery solutions.
- Our Q2 Recap discussed both understanding and managing risks for aviation companies in the marketplace.
  - Understanding the risks: the state of the industry, the volatility in the geopolitical and economic environment, the expanding supply chain, the growth in OEM aftermarket presence, and the aftermarket industry consolidation.
  - Managing the risks: climbing material costs, retaining talent, M&A and partnership opportunities, cybersecurity events, and foreign currency and commodity price fluctuations.
- Our Q3 Recap highlighted additional risks in the marketplace, as the industry navigated towards 10 years of recovery and expansion after the great recession of 2008 through 2010, along with an update on Boeing's continued distress.
  - The report included our analysis and recommendations regarding notable airline bankruptcies, airline industry characteristics, and supply and demand effects.
- In our Q4 Recap, we would like to reiterate and focus in on key data points for business owners to keep in mind, while planning for future growth and/or a sale or liquidity event.
  - We are in a decade-long expansionary period for the industry that appears to be slowing due to macroeconomic forces.
  - Expect continued political uncertainty, trade conflicts, and growth slowdown in developed economies.
  - Keep an eye on two aviation industry leading indicators, which may be pointing to an economic downturn: declining demand for air cargo and a "peak" in aircraft orders in 2018.
  - As risks increase, we may see continued consolidation and the further division between winners and losers.
  - Because of looming high-water marks in early 2020 for the valuation and sale of businesses, EBITDA multiples of 10-15x for well-established companies are not sustainable as markets slow down and interest rates rise.

## Q1 Notable M&A Transactions

- TransDigm (NYSE:TDG) purchased Esterline for \$4.0 billion (~11.8x EBITDA)
- SAIC (NYSE:SAIC) purchased Engility for \$2.0 billion (~11.5x EBITDA)

## Q2 Notable M&A Transactions

- United Technologies (NYSE:UTX) purchased Raytheon Company (NYSE:RTN) for \$104.1 billion (~23.0x EBITDA)
- Harris Corporation (NYSE:HRS) and L3 Technologies, Inc. (NYSE:LLL) completed their \$34.0 billion merger (~15.7x EBITDA)
- The Carlyle Group (NASDAQ:CG) purchased StandardAero from Veritas Capital for more than \$5.0 billion

## Q3 Notable M&A Transactions

- Platinum Equity's, Pattonair, Ltd., purchased Wesco Aircraft Holdings Inc. (NYSE:WAIR) for \$1.9 billion (~14.0x EBITDA)
- CVC Capital Partners purchased Ontic Engineering and Manuf. from BBA Aviation (LSE:BBA) for \$1.4 billion (~20.0x EBITDA)
- Parker-Hannifin Corporation (NYSE:PH) purchased Exotic Metals Forming Co. from a consortium of sellers for \$1.7 billion
- Advent International Corporation announced its purchase of Cobham plc (LSE:COB) for \$5.6 billion (~15.0x EBITDA)
- TC Skyward Aviation U.S., Inc., a subsidiary of Tokyo Century Corporation purchased the remaining 75.5% stake in Aviation Capital Group, LLC from Pacific Life Insurance Company for \$3.0 billion (~10.5x EBITDA)

## Q4 Notable M&A Transactions

- AerSale, Inc. (Leonard Green & Partners portfolio company) agreed to sell a majority stake, through a \$433.0 million reverse merger with Monocle Acquisition Corporation, a publicly traded Special Purchase Acquisition Company
- Aircastle Limited agreed to be sold to Marubeni Corporation and Mizuho Leasing Company for \$7.4 billion (~14.5x EBIT)
- Short Brothers plc/Bombardier Aerospace North Africa SAS agreed to be sold to Spirit AeroSystems, Inc. for \$1.1 billion
- Dynetics, Inc. agreed to be sold to Leidos, Inc. (NYSE:LDOS) for \$1.7 billion
- Le Bélier SA agreed to be sold to Greenbriar Equity Group, L.P. for \$288.0 million (~5.6x EBITDA)

## Past – We Celebrate Aviation History Milestones

- There were some important anniversaries in the world of aviation to mark in 2019.
  - We have completed 100 years of transatlantic flights, with the first journey completed by John Alcock and Arthur Whitten Brown in June 1919. They flew a Vickers Vimy bomber aircraft from Newfoundland to Ireland and were awarded a prize by Winston Churchill (who was the Secretary of State for Air at the time) for crossing the Atlantic Ocean in less than 72 hours.
  - The 50th anniversary of the Apollo 11 moon landings. On July 20, 1969, NASA astronauts landed on the moon providing one small step for man, and one giant leap for mankind.
  - It has been fifty years since the founding of Airbus. In May 1969, the governments of West Germany and France formed an agreement to build a new airliner (the Airbus A300) that would be Earth's very first wide-body twin engine airliner. Today, that model has turned out to be one of most popular types of models for airlines.
  - The 50th anniversary of the Concorde. The Concorde's first flight showed the world that supersonic flight was a real possibility.

## Present – The Ugly Was Truly Unmasked in 2019

- Boeing's headaches grew with its 737 MAX grounded since March 2019 after being involved in two fatal air crashes.
  - The October 2018 crash of Lion Air was not left untouched in 2019, with significant amounts of focus shifted to a potential design problem with the 737 MAX. When the second aircraft, Ethiopian Airlines, crashed, the total 737 MAX fatality count grew to 346 passengers and the world's aviation regulators and airlines began taking matters into their own hands, grounding their fleets and demanding answers from Boeing.
  - Investigations surrounding the two crashes eventually pointed to an unknown device at the time, the Maneuvering Characteristics Augmentation System. This provided stability for an aircraft that was found to be unstable as a result of the larger CFM engines during testing.
  - Legal hearings began and multiple investigations into Boeing were opened, including a criminal investigation, which uncovered unnerving news about the 787 Dreamliner. Additionally, various documents and whistleblowers drew conclusions that Boeing was aware of the problem before the aircraft was certified.
  - Deliveries of the 737 MAX were suspended and towards the end of 2019, Boeing announced plans to temporarily stop production of the 737 MAX until its certification was complete.

## Present – The Ugly Was Truly Unmasked in 2019

- In terms of aviation safety in 2019, the total fatality count was recorded at 283 passengers across 20 accidents, as reported by The Aviation Safety Network. During takeoff and approach, six accidents were recorded, zero accidents during climb, ten accidents en-route, and four accidents upon landing.
- 2019 was a record year for aviation company bankruptcies, with numerous airlines terminating operations.
  - In 2019, there were 23 airlines that stopped flying due to various financial and/or demand factors. Unfortunately, that trend is expected to continue in 2020 with many airlines at risk of failure. Some of the notable global airlines that have folded include Germania (Germany), Wow Air (Iceland), Jet Airways (India), Thomas Cook (UK), and XL Airways (France).
- Boeing 777X Unveiled and Delayed – What was meant to be a great moment for Boeing ended up being a quiet unveiling of their new flagship aircraft. Snowed under by the 737 MAX situation, Boeing opted to host an employee-only unveiling.
- Airbus Announces the Death of the A380 – As a result of poor sales and an order reduction from Emirates, Airbus announced the production of the A380 would be terminated with the final delivery set to occur in 2021.



## Future – Innovation Thriving Into the New Decade

- The New Era of Ultra-long Haul – In November 2019, an experimental research flight operated by the Australian airline Qantas, flew nonstop from London to Sydney, smashing two aviation records.
- Boeing Unveils Future Wing and Targets Supersonic – As part of the Subsonic Ultra Green Aircraft Research program, Boeing and NASA worked on a new futuristic wing design that aimed for faster and higher air travel, all while maintaining efficiency. The wing, which Boeing calls the Transonic Truss-Braced Wing, is an extremely thin, folding wing with an extended span of 170 feet that, Boeing says, will offer unprecedented aerodynamic efficiency. It will allow aircraft to fly at speeds of Mach 0.8, which is an increase from the original design, which boasted speeds of Mach 0.7-0.75.
- General Electric GE9X Engines Achieve Thrust Record – General Electric achieved a world record thrust rating of 134,300 pounds during an engineering test on a GE9X engine on November 10, 2017. Despite this impressive news, the aircraft the GE9X will power, the Boeing 777X, will only have the engines rated to 105,000 pounds of thrust. However, this means larger and heavier variants can be developed with ease.
- During the 2019 Paris Airshow, Airbus announced the Airbus A321XLR, which has been requested by many of the world's airlines and is said to be the world's "longest range single-aisle airliner." The airliner is set to be rolled out in 2023. Another variant of the highly successful A320neo Family, the A321XLR, was announced to provide airlines with an aircraft that can haul 180-220 passengers up to 4,700 nautical miles, or 15 percent more than the A321LR. Airbus has secured orders and commitments for over 450 A321XLRs from 22 operators and two lessors around the world, including Qantas, United Airlines, and American Airlines.
- Airbus also revealed a plane with flapping wings inspired by the albatross. The Albatross One, a model based on the A321, is constructed from carbon fiber and glass fiber-reinforced polymers and has "semi-aeroelastic" hinged wing-tips. It is currently in the testing stage.

Sources of information: CNN.com, AvLaw Consulting, Sam Chui Aviation & Travel.

## Future – Aviation Safety and Sustainability

- The threat of global climate change and social justice has brought about numerous firsts in 2019.
  - Pressure is mounting on the aviation industry to drastically step up its efforts to reduce its impact on climate change. Experts warn that a business-as-usual mentality could increase the global aviation carbon-dioxide emissions by 80% by 2050.
    - Indeed, airlines might find demand for air travel waning if the “flygskam” movement, spearheaded by Swedish climate change activist Greta Thunberg, gathers pace and consumers shun air travel to reduce their own carbon footprint.
  - In January, Etihad Airways flew the world's first commercial flight using locally produced biofuel.
  - In August, San Francisco International Airport banned the sale of plastic water bottles as part of an effort to become the world's first zero-waste airport by 2021.
  - In an eco-conscious move in September, KLM announced plans to partner with European train companies Thalys and NS to replace one of its five daily flights between Amsterdam and Brussels with a high-speed rail service.
  - In another measure to make life easier, London's Gatwick Airport tested new boarding systems in October to cut the airport's boarding times by 10%.
  - In 2019, Qantas was named the world's safest airline out of 405 airlines, with no hull losses or fatalities recorded over the 60 years in which Qantas has operated jet-powered aircraft.

Sources of information: CNN.com, AvLaw Consulting, Sam Chui Aviation & Travel.

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# SELECTED M&A TRANSACTIONS

## Selected Transactions Review

(\$ in millions)

Date		Transaction		Enterprise Value	Metrics			Valuation Benchmarks			
Closed	Anncd.	Target	Acquirer		Target Trailing Twelve Months (TTM)			Implied Enterprise Value (EV) /			
					Revenue	EBITDA %	EBIT %	Revenue	EBITDA	EBIT	
<b>2019 4th Quarter M&amp;A Transactions</b>											
19-Dec-19	23-Sep-19	Arotech Corporation	Greenbriar Equity Group, L.P.	\$ 101.0	\$ 91.5	4.5%	1.9%	1.11x	24.68x	89.0x	
5-Dec-19	9-Sep-19	Aviation Capital Group LLC	TC Skyward Aviation U.S., Inc.	\$ 10,768.0	\$ 1,127.4	91.0%	55.9%	9.39x	10.49x	17.3x	
27-Nov-19	7-Oct-19	Substantially All Assets of Surefly, Inc.	Moog Inc.	\$ 4.0	na	na	na	na	na	na	
5-Nov-19	29-Aug-19	SimCom International, Inc.	CAE Inc.	\$ 170.0	na	na	na	na	na	na	
1-Nov-19	30-Jul-19	Ontic Engineering and Manufacturing, Inc.	CVC Capital Partners Limited	\$ 1,321.0	na	na	na	na	na	na	
9-Oct-19	9-Oct-19	Nobles Worldwide, Inc	Ducommun LaBarge Technologies, Inc.	\$ 77.0	na	na	na	na	na	na	
na	30-Dec-19	Maxar Technologies ULC/MDA Systems Inc.	Northern Private Capital Ltd.	\$ 760.3	na	na	na	na	na	na	
na	24-Dec-19	Ellison Surface Technologies, Inc	Bodycote plc	\$ 200.0	\$ 50.0	na	na	4.00x	na	na	
na	17-Dec-19	Dynetics, Inc.	Leidos, Inc.	\$ 1,650.0	na	na	na	na	na	na	
na	13-Dec-19	Assets of Vector Launch	Lockheed Martin Corporation	\$ 4.3	na	na	na	na	na	na	
na	9-Dec-19	AerSale Inc.	Monocle Acquisition Corporation	\$ 433.1	na	na	na	na	na	na	
na	9-Dec-19	Le Bélier SA	Guangdong Wencan Die Casting Co., Ltd.	\$ 286.4	\$ 385.2	13.3%	7.0%	0.77x	5.60x	10.9x	
na	2-Dec-19	Torotel, Inc.	Standex International Corporation	\$ 55.8	\$ 22.4	9.3%	6.2%	2.29x	26.81x	32.5x	
na	21-Nov-19	Chemring Ordnance, Inc.	Nammo AS	\$ 17.0	\$ 57.0	na	na	0.30x	na	na	
na	11-Nov-19	Certain Assets of EWI System Business of Bombardier Aviation Segment of Bombardier Inc.	Latécoère S.A.	\$ 50.0	na	na	na	na	na	na	
na	6-Nov-19	Aircastle Limited	Marubeni Corporation; Mizuho Leasing Company, Limited	\$ 7,380.9	\$ 964.7	na	52.8%	7.65x	na	14.5x	
na	1-Nov-19	Pacific Architects and Engineers Inc.	Gores Holdings III, Inc.	\$ 1,511.7	na	na	na	na	na	na	
na	31-Oct-19	Short Brothers plc/Bombardier Aerospace North Africa SAS/Assets Of Business In Dallas	Spirit AeroSystems, Inc.	\$ 1,090.0	na	na	na	na	na	na	
				<i>Mean</i>	\$ 1,437.8	\$ 385.5	29.5%	24.8%	3.64x	16.90x	32.8x
				<i>Median</i>	\$ 243.2	\$ 91.5	11.3%	7.0%	2.29x	17.58x	17.3x

Sources of Information: S&P Capital IQ and Pitchbook

### Selected Private Placements Review

(\$ in millions)

Close Date	Target	Investors	Raise	Round Type	Round Number
<b>2019 4th Quarter Private Placements</b>					
16-Dec-19	Arbe Robotics Ltd.	Catalyst Investments L.P.; 360° Capital Partners; OurCrowd Ltd.; Catalyst CEL Fund; Canaan Partners Israel; Beijing Automotive Group Industry Investment Co., Ltd.; China Everbright Limited, Investment Arm; O.G. Tech Ventures; AI Alliance, LLC	\$ 32.0	Series B	4
11-Dec-19	Flying Whales	Aéroports de Paris SA; Bouygues SA; Province of Quebec; Air Liquide; Région Nouvelle-Aquitaine	33.3	Growth	1
9-Dec-19	Isar Aerospace Technologies GmbH	Earlybird Venture Capital GmbH & Co. KG; Unternehmertum Venture Capital Partners GmbH; AV Capital Management, LLC; Vito Ventures Management GmbH	16.6	Series A	2
28-Nov-19	A.L.I. Technologies Inc.	Various Investors	21.1	Venture	2
13-Nov-19	JetPack Aviation Corporation	Undisclosed	2.6	Venture	4
na	Top Aces Inc.	Caisse de dépôt et placement du Québec; Clairvest Group Inc.	100.0	Growth	2
na	Hybrid Air Vehicles Limited	Undisclosed	166.2	Growth	1
na	GE Evergreen Engine Services Corp.	Evergreen Aviation Technologies Corporation	63.9	Growth	1
na	Delta Private Jets, Inc.	Wheels up	na	na	na
		<i>Mean</i>	\$ 54.5		
		<i>Median</i>	\$ 32.6		

Sources of information: S&P Capital IQ and Pitchbook

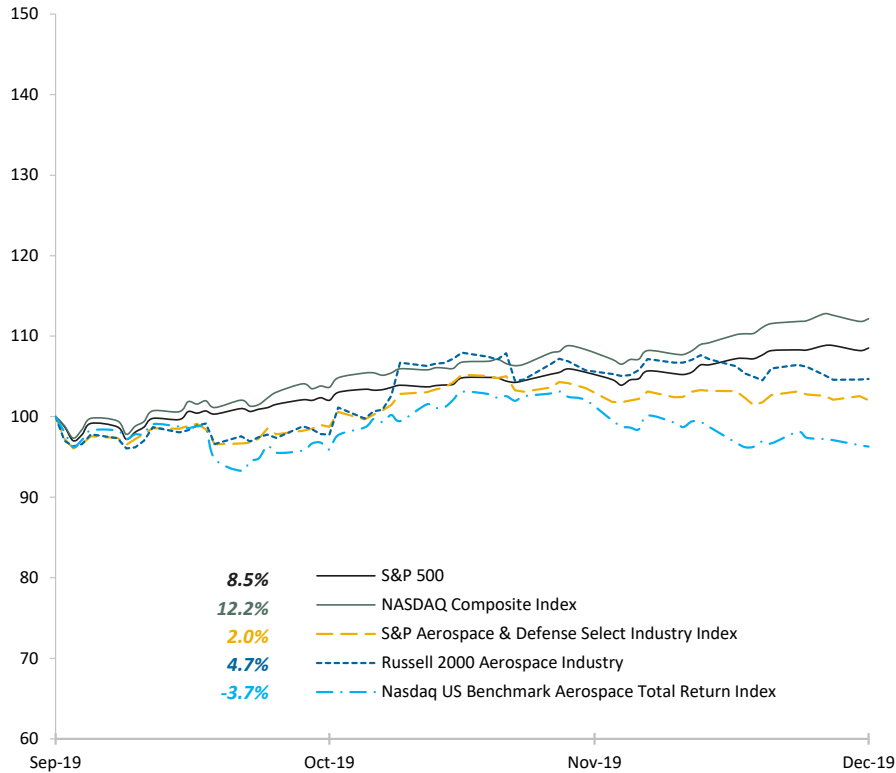
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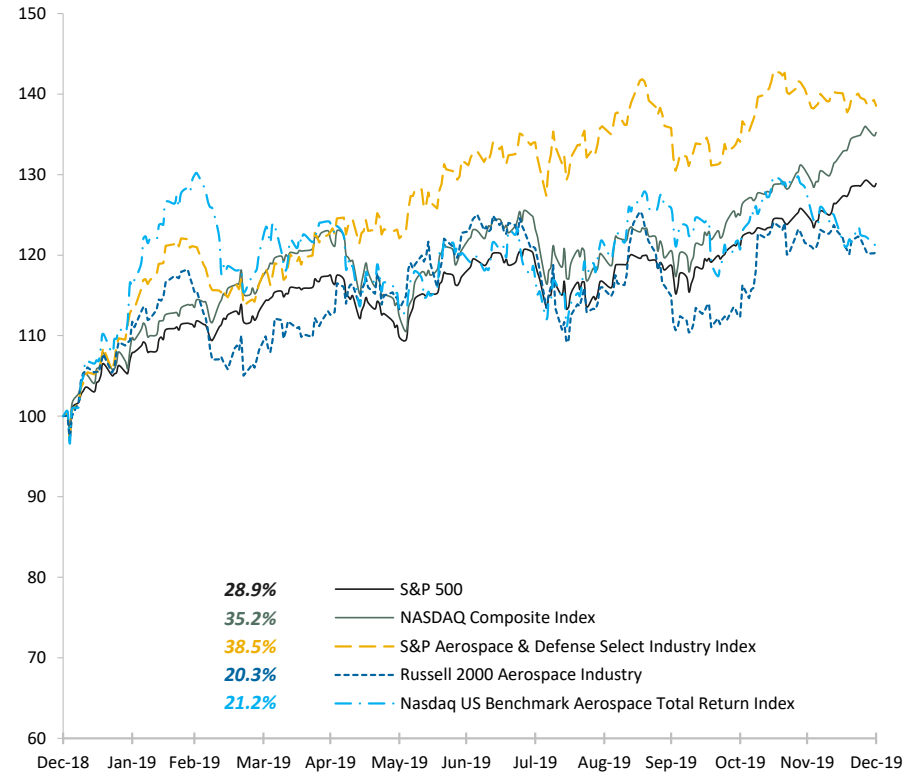
**III PUBLIC MARKETS OVERVIEW**

## Relative Performance

Quarterly - September 30, 2019 to December 31, 2019



Annual - December 31, 2018 to December 31, 2019



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-19	High-Low	Value	LTM	LTM	LTM Margin	2021 E Growth	LTM	2020 E	LTM	2020 E	
<b>Aerostructures &amp; Component Manufacturers</b>													
Air Industries Group	AIRI	\$ 2.30	87.8% - 316.9%	\$ 96.9	\$ 53.9	\$ 2.9	5.4%	na	1.80x	1.56x	33.2x	12.3x	
Allegheny Technologies Incorporated	ATI	\$ 20.66	70.0% - 121.3%	3,951.2	4,141.8	432.6	10.4%	22.3%	0.95x	0.93x	9.1x	7.1x	
Arconic Inc.	ARNC	\$ 30.77	96.2% - 190.9%	18,712.6	14,263.0	2,044.0	14.3%	5.0%	1.31x	1.28x	9.2x	7.6x	
Astronics Corporation	ATRO	\$ 27.95	63.0% - 108.1%	1,068.7	777.2	90.2	11.6%	na	1.38x	1.37x	11.9x	10.6x	
CPI Aerostructures, Inc.	CVU	\$ 6.73	77.9% - 111.4%	115.7	100.9	11.5	11.4%	19.6%	1.15x	1.00x	10.1x	7.8x	
Hexcel Corporation	HXL	\$ 73.31	84.3% - 130.7%	7,375.3	2,352.4	563.4	24.0%	5.3%	3.14x	2.94x	13.1x	11.9x	
Honeywell International Inc.	HON	\$ 177.00	96.7% - 137.1%	134,846.7	36,942.0	8,600.0	23.3%	6.8%	3.65x	3.53x	15.7x	14.6x	
Ducommun Incorporated	DCO	\$ 50.53	94.6% - 146.1%	824.8	698.3	80.9	11.6%	3.7%	1.18x	1.12x	10.2x	8.6x	
FACC AG	WBAG:FACC	\$ 12.50	67.4% - 123.0%	821.9	866.2	65.2	7.5%	14.7%	0.95x	0.90x	12.6x	8.8x	
Héroux-Devtek Inc.	TSX:HRX	\$ 14.73	94.1% - 163.9%	742.3	446.7	64.2	14.4%	8.0%	1.66x	1.52x	11.6x	9.4x	
Innovative Solutions and Support, Inc.	ISSC	\$ 5.84	82.2% - 285.2%	77.7	17.6	2.0	11.3%	na	4.42x	na	39.3x	na	
JAMCO Corporation	TSE:7408	\$ 13.37	52.4% - 102.9%	616.9	779.6	50.7	6.5%	na	0.79x	0.71x	12.2x	na	
Kaman Corporation	KAMN	\$ 65.92	96.6% - 121.2%	1,542.7	1,884.1	170.0	9.0%	11.1%	0.82x	1.95x	9.1x	13.2x	
Latécoère S.A.	ENXTPA:LAT	\$ 4.33	98.8% - 147.7%	551.9	811.1	54.4	6.7%	18.9%	0.68x	0.70x	10.1x	7.9x	
Lisi S.A.	ENXTPA:FII	\$ 33.72	88.8% - 148.8%	2,239.4	1,971.4	277.6	14.1%	10.5%	1.14x	1.16x	8.1x	7.4x	
Magellan Aerospace Corporation	TSX:MAL	\$ 10.84	74.0% - 103.0%	683.6	773.5	115.8	15.0%	4.2%	0.88x	0.85x	5.9x	5.5x	
Meggitt PLC	MGGT	\$ 8.70	96.6% - 144.0%	8,203.4	2,794.8	451.1	16.1%	7.6%	2.94x	2.66x	18.2x	11.5x	
Moog Inc.	MOG.A	\$ 85.33	86.6% - 115.3%	3,729.6	2,904.7	357.2	12.3%	5.4%	1.28x	1.22x	10.4x	9.1x	
RBC Bearings Incorporated	ROLL	\$ 158.34	90.5% - 128.2%	3,930.1	718.2	183.5	25.5%	na	5.47x	5.05x	21.4x	19.1x	
Senior plc	LSE:SNR	\$ 2.29	71.5% - 105.7%	1,307.3	1,447.7	164.3	11.4%	6.2%	0.90x	0.97x	8.0x	7.4x	
SIFCO Industries, Inc.	SIF	\$ 3.95	94.0% - 171.4%	45.8	112.5	(2.5)	-2.3%	na	0.41x	na	na	na	
Spirit AeroSystems Holdings, Inc.	SPR	\$ 72.88	72.6% - 104.2%	8,287.2	7,739.1	1,186.9	15.3%	6.8%	1.07x	1.03x	7.0x	6.4x	
Triumph Group, Inc.	TGI	\$ 25.27	86.0% - 226.4%	2,790.2	3,179.3	231.2	7.3%	10.8%	0.88x	0.98x	12.1x	8.2x	
TransDigm Group Incorporated	TDG	\$ 560.00	93.7% - 172.4%	45,644.0	5,223.2	2,323.4	44.5%	8.6%	8.74x	7.18x	19.6x	16.0x	
Woodward, Inc.	WWD	\$ 118.44	94.9% - 167.7%	8,584.8	2,900.2	483.8	16.7%	9.2%	2.96x	2.79x	17.7x	13.8x	
			<i>Mean</i>	\$ 10,271.6	\$ 3,756.0	\$ 720.2	13.7%	9.7%	2.02x	1.89x	14.0x	10.2x	
			<i>Median</i>	\$ 1,542.7	\$ 1,447.7	\$ 170.0	11.6%	8.0%	1.18x	1.22x	11.7x	9.0x	

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-19	High-Low	Value	LTM	LTM	LTM Margin	2021 E Growth	LTM	2020 E	LTM	2020 E	
<b>MRO, Parts &amp; Supply Chain</b>													
AAR Corp.	AIR	\$ 45.03	85.3% - 150.9%	\$ 1,825.7	\$ 2,194.6	\$ 169.2	7.7%	13.3%	0.83x	0.82x	10.8x	9.9x	
HEICO Corporation	HEI	\$ 114.08	77.1% - 156.7%	14,285.6	2,055.6	546.4	26.6%	7.3%	6.95x	6.36x	26.1x	24.2x	
MTU Aero Engines AG	XTRA:MTX	\$ 285.71	95.6% - 163.6%	15,251.7	5,072.6	886.7	17.5%	10.2%	3.01x	2.64x	17.2x	13.3x	
Singapore Technologies (ST Aerospace)	SGX:S63	\$ 2.93	90.6% - 114.5%	10,574.4	5,316.5	671.7	12.6%	6.6%	1.99x	1.69x	15.7x	13.0x	
TAT Technologies Ltd.	TATT	\$ 5.05	71.4% - 105.5%	35.1	96.2	5.0	5.2%	na	0.37x	na	7.0x	na	
VSE Corporation	VSEC	\$ 37.94	92.2% - 157.7%	713.8	738.4	86.4	11.7%	na	0.97x	na	8.3x	na	
		<i>Mean</i>	<i>85.4% - 141.5%</i>	<i>\$ 7,114.4</i>	<i>\$ 2,579.0</i>	<i>\$ 394.2</i>	<i>13.6%</i>	<i>9.4%</i>	<i>2.35x</i>	<i>2.87x</i>	<i>14.2x</i>	<i>15.1x</i>	
		<i>Median</i>	<i>87.9% - 153.8%</i>	<i>\$ 6,200.0</i>	<i>\$ 2,125.1</i>	<i>\$ 357.8</i>	<i>12.2%</i>	<i>8.8%</i>	<i>1.48x</i>	<i>2.16x</i>	<i>13.3x</i>	<i>13.2x</i>	
<b>Aviation Services</b>													
AerCap Holdings N.V.	AER	\$ 61.47	97.8% - 159.2%	\$ 36,563.7	\$ 4,900.1	\$ 2,645.0	54.0%	8.2%	7.46x	7.54x	13.8x	9.1x	
Aircastle Limited	AYR	\$ 32.01	98.6% - 189.5%	7,335.7	964.7	na	na	7.6%	7.60x	7.96x	na	8.7x	
Air Lease Corporation	AL	\$ 47.52	97.8% - 161.4%	18,908.7	1,918.3	na	na	24.6%	9.86x	7.73x	na	8.2x	
Air T, Inc.	AIRT	\$ 20.15	82.2% - 161.1%	122.8	255.0	16.0	6.3%	na	0.48x	na	7.7x	na	
Air Transport Services Group, Inc.	ATSG	\$ 23.46	90.9% - 123.4%	2,840.2	1,329.6	413.0	31.1%	5.1%	2.14x	1.83x	6.9x	5.7x	
Atlas Air Worldwide Holdings, Inc.	AAWW	\$ 27.57	45.4% - 133.8%	3,583.1	2,757.1	506.1	18.4%	11.7%	1.30x	1.25x	7.1x	7.1x	
CAE Inc.	TSX:CAE	\$ 26.51	93.3% - 139.5%	9,014.1	2,689.7	511.1	19.0%	7.6%	3.35x	2.93x	17.6x	12.2x	
Gogo Inc.	GOGO	\$ 6.40	88.5% - 219.1%	1,567.0	831.6	141.8	17.1%	35.9%	1.88x	1.80x	11.0x	11.1x	
		<i>Mean</i>	<i>86.8% - 160.9%</i>	<i>\$ 9,991.9</i>	<i>\$ 1,955.8</i>	<i>\$ 705.5</i>	<i>24.3%</i>	<i>14.4%</i>	<i>4.26x</i>	<i>4.43x</i>	<i>10.7x</i>	<i>8.9x</i>	
		<i>Median</i>	<i>92.1% - 160.1%</i>	<i>\$ 5,459.4</i>	<i>\$ 1,624.0</i>	<i>\$ 459.5</i>	<i>18.7%</i>	<i>8.2%</i>	<i>2.74x</i>	<i>2.93x</i>	<i>9.4x</i>	<i>8.7x</i>	

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-19	High-Low	Value	LTM	LTM	LTM Margin	2021 E Growth	LTM	2020 E	LTM	2020 E
<b>Airframe &amp; Engine OEM</b>												
Airbus SE	ENXTPA:AIR	\$ 146.43	95.0% - 168.4%	\$ 119,763.7	\$ 75,732.2	\$ 7,365.6	9.7%	12.0%	1.58x	1.44x	16.3x	9.9x
The Boeing Company	BA	\$ 325.76	73.0% - 105.3%	199,433.6	86,989.0	6,560.0	7.5%	18.3%	2.29x	1.72x	30.4x	12.2x
Bombardier Inc.	TSX:BBD.B	\$ 1.49	63.7% - 126.1%	13,671.1	15,855.0	913.0	5.8%	19.1%	0.86x	0.76x	15.0x	8.5x
Dassault Aviation SA	ENXTPA:AM	\$ 1,312.98	78.6% - 106.1%	5,785.6	7,388.7	763.6	10.3%	10.7%	0.78x	0.83x	7.6x	8.2x
Embraer S.A.	BOVSPA:EMBR3	\$ 4.91	85.4% - 118.8%	2,994.6	4,769.8	232.0	4.9%	25.5%	0.63x	1.17x	12.9x	5.5x
General Electric Company	GE	\$ 11.16	94.3% - 150.6%	181,249.4	120,079.0	14,246.0	11.9%	9.4%	1.51x	1.96x	12.7x	14.1x
Rolls-Royce Holdings plc	LSE:RR.	\$ 9.05	68.1% - 100.5%	20,551.9	20,491.0	779.0	3.8%	17.4%	1.00x	0.97x	26.4x	7.6x
Safran SA	ENXTPA:SAF	\$ 154.47	91.2% - 136.2%	66,359.4	27,434.0	5,144.5	18.8%	11.5%	2.42x	2.31x	12.9x	11.4x
Textron Inc.	TXT	\$ 44.60	76.9% - 105.4%	13,706.5	13,345.0	1,644.0	12.3%	5.4%	1.03x	0.98x	8.3x	8.5x
United Technologies Corporation	UTX	\$ 149.76	99.1% - 145.1%	171,477.1	75,539.0	14,340.0	19.0%	9.0%	2.27x	2.14x	12.0x	11.8x
		<i>Mean</i>	82.5% - 126.2%	\$ 79,499.3	\$ 44,762.3	\$ 5,198.8	10.4%	13.8%	1.44x	1.43x	15.4x	9.8x
		<i>Median</i>	82.0% - 122.5%	\$ 43,455.7	\$ 23,962.5	\$ 3,394.3	10.0%	11.7%	1.27x	1.31x	12.9x	9.2x
<b>Defense Contractors</b>												
AeroVironment, Inc.	AVAV	\$ 61.74	64.7% - 127.0%	\$ 1,195.8	\$ 333.4	\$ 53.3	16.0%	41.3%	3.59x	2.99x	22.5x	22.3x
BAE Systems plc	LSE:BA.	\$ 7.48	95.6% - 128.5%	28,556.4	22,027.4	2,569.5	11.7%	8.1%	1.30x	1.03x	11.1x	8.6x
Elbit Systems Ltd.	TASE:ESLT	\$ 155.64	91.7% - 127.0%	7,964.3	4,264.7	441.1	10.3%	na	1.87x	na	18.1x	na
General Dynamics Corporation	GD	\$ 175.36	90.5% - 115.0%	65,737.0	38,955.0	5,437.0	14.0%	4.9%	1.69x	1.60x	12.1x	11.4x
Herkules S.A.	HRS	\$ 0.22	27.8% - 119.4%	32.0	34.1	1.1	3.2%	na	0.94x	na	29.5x	na
Huntington Ingalls Industries, Inc.	HII	\$ 250.88	96.2% - 134.4%	11,986.1	8,686.0	976.0	11.2%	-8.7%	1.38x	1.32x	12.3x	9.6x
Kratos Defense & Security Solutions, Inc.	KTOS	\$ 18.01	71.8% - 138.5%	2,142.7	696.8	63.6	9.1%	19.4%	3.08x	2.52x	33.7x	22.1x
L3Harris Technologies, Inc.	LHX	\$ 197.87	91.1% - 152.8%	51,244.9	9,690.0	2,080.0	21.5%	11.8%	5.29x	2.66x	24.6x	14.1x
Leonardo S.p.a.	BIT:LDO	\$ 11.73	87.9% - 140.2%	11,824.9	14,321.2	1,684.7	11.8%	9.3%	0.83x	0.76x	7.0x	5.8x
Lockheed Martin Corporation	LMT	\$ 389.38	97.4% - 151.6%	122,528.3	58,345.0	9,239.0	15.8%	8.2%	2.10x	1.96x	13.3x	12.2x
Mercury Systems, Inc.	MRCY	\$ 69.11	77.3% - 160.7%	3,737.3	688.0	129.7	18.9%	12.8%	5.43x	4.54x	28.8x	19.9x
Northrop Grumman Corporation	NOC	\$ 343.97	89.6% - 145.1%	72,677.2	33,276.0	5,020.0	15.1%	11.4%	2.18x	2.02x	14.5x	14.4x
Raytheon Company	RTN	\$ 218.83	98.5% - 146.6%	64,626.0	28,694.0	4,519.0	15.7%	6.5%	2.25x	2.06x	14.3x	11.0x
Thales S.A.	ENXTPA:HO	\$ 103.83	82.2% - 108.9%	27,371.8	18,880.6	2,117.2	11.2%	9.0%	1.45x	1.24x	12.9x	9.1x
		<i>Mean</i>	83.0% - 135.4%	\$ 33,687.5	\$ 17,063.7	\$ 2,452.2	13.2%	11.2%	2.38x	2.06x	18.2x	13.4x
		<i>Median</i>	90.1% - 136.5%	\$ 19,678.9	\$ 12,005.6	\$ 1,882.3	12.9%	9.2%	1.98x	1.99x	14.4x	11.8x

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.

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