



Cassel Salpeter & Co.  
INVESTMENT BANKING

**Aviation Investment Banking  
Q3 2019 Update**

Confidential



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Representative Assignments:

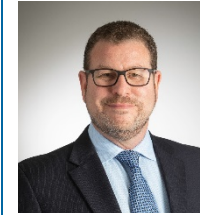
- Sale: Gulfstream International Airlines
- Sale: Tradewinds Engine Group



**Scott E. Salpeter**  
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Representative Assignments:

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



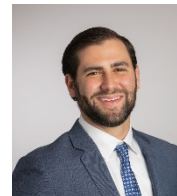
**Joseph "Joey" Smith**  
Director, Aviation Services  
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Representative Assignments:

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



Ira Leiderman  
Managing Director



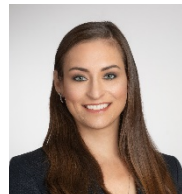
Philip Cassel  
Director



Marcus Wai  
Vice President



Chris Mansueto  
Vice President



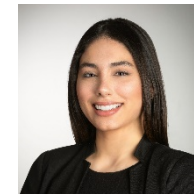
Laura Salpeter  
Vice President



Jenna Weiner  
Associate



Julian Astrove  
Analyst



Daniela Lopez  
Analyst

Includes projects by our professionals at prior firms.

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**PUBLIC MARKETS OVERVIEW**

## Current Airline Industry Trends:

- Increasing trend towards commoditization of air travel
  - Low-cost operators with scale are driving prices down and squeezing out small and inflexible operators
- High costs for planes due to Boeing/Airbus duopoly
  - Industry-wide disruptions due to the grounding of Boeing's 737 MAX
- High levels of variability in passenger yield (% of plane capacity)
- Many operators with significant exposure to exchange rate and fuel price risk
- Wave of bankruptcies in developing markets and increasing consolidation in European markets

## Notable Airline Bankruptcies in 2019:

- Thomas Cook Airlines – UK-based operator ceased operations in September
  - Current fleet: 92 (21 leased Airbuses returned since liquidation)
- Avianca Brazil - Brazilian operator ceased operations in May
  - Current fleet: 6 (31 planes returned/sold since liquidation)
- Jet Airways - Indian operator ceased operations in April
  - Current fleet: 13 (88 planes returned/sold since liquidation)

## Supply/Demand Effects:

- Increase in supply of available, relatively young (less than 10 years old) planes may reduce number of new orders (order books)
- Supply increase may hasten retirement of aging planes by current operators, bolstering an already growing wave of retirements
- Potential surge in service/maintenance labor demand to certify/modify returned planes before redeployment in new operators' fleets
- Increased availability of used serviceable material may negatively impact Original Equipment Manufacturers' market positions

## Analysis & Recommendations:

- Decade-long expansionary period for industry appears to be slowing due to macroeconomic forces
  - Political uncertainty, trade conflicts, and growth slowdown in the more secured and developed economies
- Two indicators in the aviation industry may be pointing to an economic downturn
  - Declining demand for air cargo with YoY decline of 4.7% and a peak in aircraft orders in 2018
- Downstream effects of airline industry trends becoming increasingly unfavorable, especially among OEMs and their tier 1 and tier 2 suppliers
  - As risks increase, we may see a move towards more consolidation with outright winners and losers
- Looming valuation high water mark in 2019 and into early 2020
  - Double-digit EBITDA multiples of 12-15x-plus for well-established companies and transactions are not sustainable as markets slow and interest rates rise
- Well-run, nimble, asset-light service companies (repair and maintenance, after-market distribution, and niche manufacturers) who are proactively preparing for all scenarios, will be best suited to thrive and gain market share in both good and challenging markets in the future

Sources of information: International Air Transport Association and CAPA - Centre for Aviation.

- Boeing's best-selling plane, the 737 MAX, has been grounded since mid-March after two deadly crashes; the company isn't expected to announce any orders of the plane in the near term.
- The estimated total cost of the 737 MAX grounding through July 2019 is more than \$8 billion, not including the lost market value to its stock of approximately \$34 billion from March 1st through Sept 30th, 2019. Boeing is under pressure on multiple fronts, which prompted Wall Street analysts from UBS and Credit Suisse to suggest Boeing could lose as much as \$53 billion from its stock market value amid mounting questions about whether the company moved fast enough to correct the 737 MAX's problems.
- Boeing CEO, Dennis Muilenburg, reiterated on a call with analysts that he believes the troubled 737 MAX will return to service by the end of the year. He said if the 737 MAX is not flying again by then, the company is likely to temporarily suspend production of the jet. Boeing has a back order of 4,000 737 MAX aircrafts, which cost about \$100 million each, and those sales are in jeopardy until the plane is approved to fly again.
- The aviation industry needs a healthy and stable Boeing, but it appears from the headlines that we still have a long way to go. To put the Boeing debacle into context, here is a sampling of many damaging Boeing headlines from The Wall Street Journal:
  - **August 14 – Boeing Deliveries Hit 11 – Year Low** – Monthly tally suffers from grounding of 737 MAX as rival Airbus picks up the slack.
  - **September 3 – Boeing Faces New 737 MAX Delay** – Friction with regulators could keep the plane out of service through December holidays.
  - **September 16 – Boeing Board to Weigh Engineer Overhaul** – Reorganization to mark first tangible changes since crashes of 737 MAX airliners.
  - **October 15 – Boeing Turns to a Crisis Pro to Lead Board** – Boeing's boardroom shakeup puts David Calhoun, a powerful behind-the-scenes figure, in position to control the aerospace giant's response to the 737 MAX crisis, one of the most fraught episodes in the company's history.
  - **October 19 – Boeing Pilot Raised 737 MAX Concerns** – A senior Boeing pilot raised concerns about a 737 MAX flight-control system three years ago, but the company did not alert federal regulators until 2019, months after the two deadly crashes, according to the FAA.
  - **October 21 – Boeing Workers Pressed on Safety** – Employee survey showed some felt undue pressure to approve its system.
  - **October 22 – Boeing's MAX Timetable Suffers Blow** – EU regulators to wait longer to clear the troubled plane's return to service.
  - **October 23 – Boeing Replaced Head of Jetliner Division** – Boeing shuffles the ranks of top management, replacing the head of its jetliner business as it struggles to shore up confidence among customers, investors and lawmakers in the company's handling of the 737 MAX crisis.
  - **October 24 – Boeing Profit, Sales Plummet as China Add to Its Problems** – Profit was slashed in half in the latest quarter and it is facing a cash squeeze as airlines stop payments, but the plane maker hopes to secure regulatory approval this year for the return of its 737 MAX jetliner.
  - **October 25 – Airlines Take Aim at Boeing to Recover 737 MAX Losses** – Airlines are ramping up pressure on Boeing Co. to help compensate them for lost revenue and higher costs as the grounding of the plane maker's 737 MAX aircraft stretches into its eight month.
  - **October 29 – FAA's Move to Keep MAX Flying Relied on Boeing** – Between the two crashes, the agency struggled to catch up.
  - **October 30 – Senators Pressure Boeing's Chief on His Handling of MAX Crisis** – Lawmakers sharply criticized Boeing's chief executive in a contentious hearing, trying to pin down what he knew about internal concerns that employees appear to have raised about the flight-control system that led to two fatal crashes of the 737 MAX.
  - **November, December, January...Drip, Drip, Drip...** – When Boeing eventually cleans up its mess, the entire industry will get a much-needed lift.

**August 9, 2019 – Platinum Equity's Pattonair acquires Wesco Aircraft Holdings Inc. (NYSE: WAIR) for \$1.9 billion cash, representing a valuation of ~14x EBITDA.** Wesco of Valencia, California, is one of the world's leading distributors and providers of comprehensive supply chain management services to the global aerospace industry, Wesco will become a privately held company, and will be combined with Pattonair, a Derby, United Kingdom, distributor of hardware products, such as fasteners and bearings to commercial aerospace and military customers.

- The combined group will have proforma revenue of approximately \$2.1 billion, comprising \$1.6 billion Wesco revenue in fiscal 2018, and \$0.5 billion for Pattonair in the year ended December 2018. Wesco is largely focused on the Americas, representing around 81% of its fiscal 2018 sales, while Pattonair is more concentrated on the UK with 51% of 2018 revenue. The combined group will have a more balanced geographic footprint, estimated to be split around 67% Americas and 28% Europe, Middle East and Africa, and 5% other, in terms of revenue.
- Wesco has a more diverse product range, including hardware, chemicals and electrical components, which will complement Pattonair's focus on hardware. Estimates are that hardware will comprise approximately 60% and chemicals over 30% of combined group revenue.
- Wesco has a relatively balanced split of end-users between commercial aerospace and military sectors, which will complement Pattonair's focus, which is largely on commercial aerospace. Pattonair is highly reliant on its main customer, Rolls-Royce plc, for around 50% of its sales, through long-term contracts. The merger will alleviate its customer concentration and strengthen its ability to manage industry challenges, including the ramp-up of new contracts and inventory build.

**July 25, 2019 – Advent International Corporation agreed to acquire Cobham plc (LSE:COB) for \$5.6 billion, representing a valuation of ~15x EBITDA.** Cobham plc provides a range of technologies and services to commercial, defense, aerospace, space, and security markets in the UK, U.S., Europe, and internationally. The company operates in four segments: communications and connectivity, mission systems, advanced electronic solutions, and aviation services. Cobham plc is based in Wimborne, UK.

**July 26, 2019 – Parker-Hannifin Corporation (NYSE:PH) entered into a definitive agreement to acquire Exotic Metals Forming Company LLC from a consortium of sellers for \$1.7 billion cash.** Exotic Metals Forming engineers, manufactures, and provides aftermarket support services for vital systems and components of aerospace industries. Exotic Metals Forming Company was founded in 1966 and is based in Kent, WA, with additional locations in Phoenix, AZ and Airway Heights, WA.

**July 30, 2019 – CVC Capital Partners entered into an agreement to acquire Ontic Engineering and Manufacturing, Inc. from BBA Aviation plc (LSE:BBA) for \$1.4 billion cash, representing a valuation of ~20x EBITDA.** Ontic Engineering and Manufacturing designs, manufactures, and delivers OEM-pedigree parts and accessories for legacy aerospace platforms. The company also provides maintenance, repair, and overhaul services, which include modification, advance exchange, recertification, AOG, and refurbished/serviceable parts. The company is based in Chatsworth, CA.

**September 9, 2019 – TC Skyward Aviation U.S. Inc., a subsidiary of Tokyo Century Corporation agreed to acquire the remaining 75.5% stake in Aviation Capital Group LLC (ACG) from Pacific Life Insurance Company for approximately \$3 billion, representing a valuation of ~11x EBITDA.** TC Skyward, a Colorado-based provider of aircraft leasing services will now own 100% of ACG, which owns, manages, and leases commercial jet aircraft. As of December 31, 2018, the company owned and managed approximately 500 aircraft, which are leased to approximately 90 airlines, in 45 countries. It also offers aircraft asset management services for third parties. The company is based in Newport Beach, CA.

Sources of information: S&P Capital IQ and Moody's Investor Services.

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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 3rd Quarter M&amp;A Transactions</b>										
30-Sep-19	10-Jun-19	EDAC Technologies Corporation (nka:Hanwha Aerospace USA)	Hanwha Aerospace Co., Ltd.	\$ 295.3	\$ 150.0	na	na	1.97x	na	na
23-Sep-19	30-Jul-19	American Panel Corporation	Mercury Systems, Inc.	\$ 100.0	na	na	na	na	na	na
20-Sep-19	7-Aug-19	Esterline Interface Technologies Limited	KPS Capital Partners, LP	\$ 190.0	\$ 190.0	na	na	1.00x	na	na
16-Sep-19	29-Jul-19	Exotic Metals Forming Company LLC	Parker-Hannifin Corporation	\$ 1,725.0	na	na	na	na	na	na
15-Sep-19	5-Apr-19	Night Vision business of Harris Corporation	Elbit Systems of America, LLC	\$ 350.0	na	na	na	na	na	na
4-Sep-19	4-Sep-19	Pacific Design Technologies, Inc.	AMETEK, Inc.	\$ 125.0	\$ 40.0	na	na	3.13x	na	na
26-Aug-19	26-Jun-19	Kaman Industrial Technologies Corporation	Littlejohn & Co., LLC	\$ 700.0	\$ 1,100.0	6.0%	4.7%	0.64x	10.55x	13.4x
21-Aug-19	18-Jul-19	Columbia Helicopters, LLC	AE Industrial Partners, LP	na	na	na	na	na	na	na
31-Jul-19	22-Jul-19	QRC, LLC	Parsons Corporation	\$ 215.0	na	na	na	na	na	na
22-Jul-19	4-Jun-19	Pacific Cast Technologies, Inc.	WP CPP Holdings, LLC	\$ 127.0	na	na	na	na	na	na
11-Jul-19	11-Jul-19	VSP Technologies, Inc.	Diploma PLC	\$ 80.0	\$ 44.6	na	17.9%	1.79x	na	10.0x
na	23-Sep-19	Arotech Corporation	Greenbriar Equity Group, L.P.	\$ 102.7	\$ 91.5	5.3%	1.9%	1.12x	21.34x	58.4x
na	9-Sep-19	Aviation Capital Group LLC	TC Skyward Aviation U.S., Inc.	\$ 10,873.5	\$ 1,127.4	90.5%	55.9%	9.64x	10.65x	17.2x
na	29-Aug-19	SimCom International, Inc.	CAE Inc.	\$ 170.0	na	na	na	na	na	na
na	9-Aug-19	Wesco Aircraft Holdings, Inc.	Pattonair Limited	\$ 1,903.8	\$ 1,671.0	8.3%	6.7%	1.14x	13.77x	17.4x
na	7-Aug-19	Advanced Ballistic Protection Business of 3M	Avon Rubber p.l.c.	\$ 116.0	\$ 85.4	12.6%	na	1.36x	10.74x	na
na	30-Jul-19	Ontic Engineering and Manufacturing, Inc.	CVC Capital Partners Limited	\$ 1,365.0	na	na	na	na	20.13x	23.0x
na	25-Jul-19	Cobham plc	Advent International Corporation	\$ 5,270.1	\$ 2,500.5	13.7%	5.9%	2.08x	15.39x	35.2x
Mean				\$ 1,394.6	\$ 700.0	22.7%	15.5%	2.39x	14.66x	25.0x
Median				\$ 215.0	\$ 170.0	10.5%	6.3%	1.58x	13.77x	17.4x

Sources of Information: S&P Capital IQ and Pitchbook

### Selected Transactions Review

(\$ in millions)

Close Date	Target	Investors	Raise	Round Type	Round Number
<b>2019 3rd Quarter Private Placements</b>					
24-Sep-19	D-Fend Solutions A.D. Ltd.	Vertex Ventures Israel; Claridge Israel	\$ 28.0	Venture	1
17-Sep-19	WhiteFox Defense Technologies, Inc.	Okapi Venture Capital, LLC; Serra Ventures, LLC; Moore Venture Partners; Jam Capital, LLC; SaaS Venture Capital	12.0	Series A	3
11-Sep-19	Echodyne Corp	Madrona Venture Group, LLC; New Enterprise Associates; Vulcan Capital; Lux Capital Management; Vanedge Capital Inc.	20.0	Series C	3
9-Sep-19	Everywhere Communications Inc.	Gemini Capital LLC	6.1	Venture	2
5-Sep-19	ALE Co., Ltd.	Horizons Ventures Limited; SPARX Group Co., Ltd; Shinsei Corporate Investment Limited; QB Capital, LLC	11.0	Series A	4
4-Sep-19	Fleet Space Technologies Pty Ltd	Horizons Ventures Limited; Blackbird Ventures; Grok Ventures; Momenta Partners AG	7.3	Venture	3
16-Aug-19	Wheels Up Partners LLC	Franklin Resources, Inc.; Fidelity Management & Research Company; T. Rowe Price Associates, Inc.	125.4	Series D	7
9-Aug-19	Shield AI Inc	Silicon Valley Bank, Inc.; Riot Ventures	22.2	Series B	4
30-Jul-19	Interstellar Technologies Inc.	Hokkaido Venture Capital, Inc.; North Pacific Bank, Ltd., Investment Arm; Hokkaido Chiho Sosei Fund	11.2	Series B	6
12-Jul-19	Air Comm Corporation	Undisclosed	32.0	Growth	1
9-Jul-19	Aireon LLC	Irish Aviation Authority	33.6	Growth	4
na	Foguang Shunde Kuangchi Advanced Equipment Co., Ltd.	Shenzhen KuangChi Advanced Technology Co., Ltd.	56.2	Venture	1
na	Raptor Scientific LLC	L Squared Capital Partners	60.0	Venture	1
na	Repure Unimax Inc.	Cool Invest Co., Ltd.	8.5	PIPE	2
na	China Hangfa Shenyang Liming Airline Engine Co., Ltd.	BOCOM Financial Asset Investment Co., Ltd.; Beijing Guofa Aviation Engine Industry Investment Fund Center; Shenzhen Xinmaisui Investment Management Co., Ltd.; Beijing Gongrong Jintou	428.8	Growth	6
na	AECC Guizhou Liyang Aviation Power Co., Ltd.	BOCOM Financial Asset Investment Co., Ltd.; Beijing Guofa Aviation Engine Industry Investment Fund Center; Shenzhen Xinmaisui Investment Management Co., Ltd.; Beijing Gongrong Jintou	225.3	Growth	5
na	China National South Aviation Industry Co., Ltd.	BOCOM Financial Asset Investment Co., Ltd.; Beijing Guofa Aviation Engine Industry Investment Fund Center; Shenzhen Xinmaisui Investment Management Co., Ltd.; Beijing Gongrong Jintou	145.4	Growth	6
na	AEVEX Aerospace	Undisclosed	160.0	Debt	1
Mean			\$ 77.4		
Median			\$ 30.0		

Sources of information: S&P Capital IQ and Pitchbook

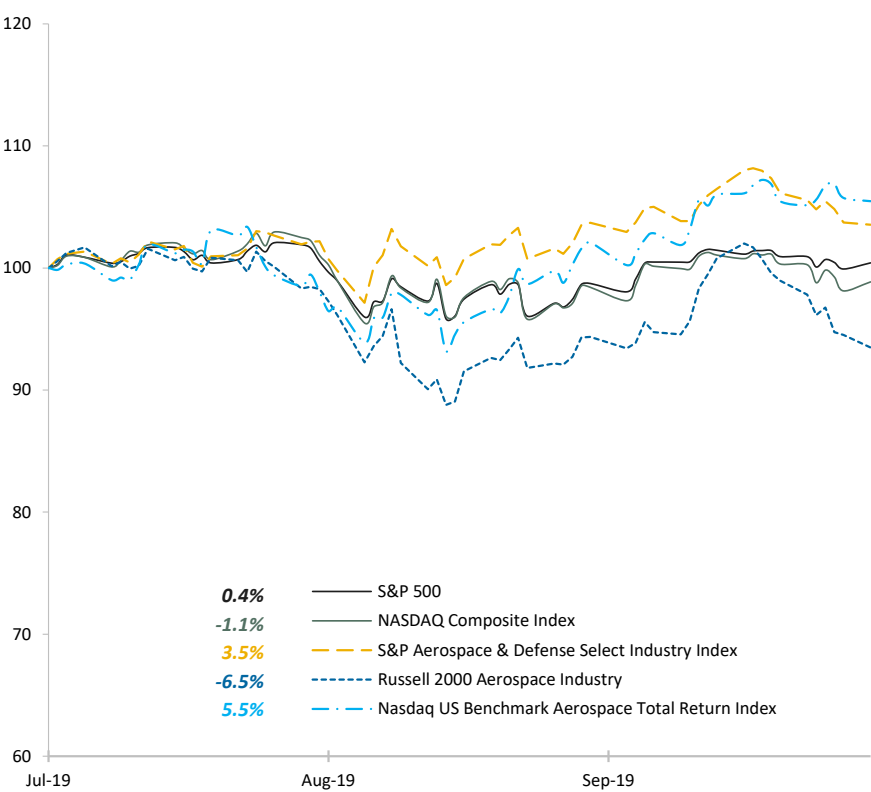
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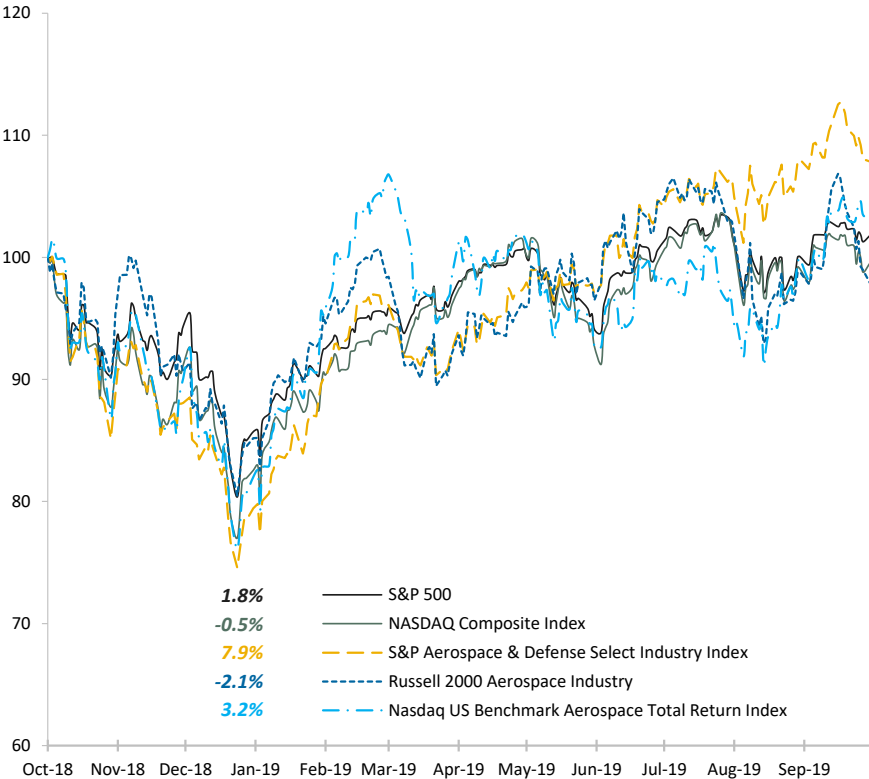
Relative Performance

Quarterly - July 1, 2019 to September 30, 2019



Sources of information: S&P Capital IQ.

Annual - October 1, 2018 to September 30, 2019



# 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		
		30-Sep-19	High-Low	Value	LTM	LTM	LTM Margin	2020 E Growth	LTM	2019 E	LTM	2019 E	
Aerostructures & Component Manufacturers													
Air Industries Group	AIRI	\$ 1.31	87.7% - 186.7%	\$ 68.5	\$ 50.7	\$ 1.0	2.1%	8.9%	1.35x	1.25x	65.7x	16.2x	
Allegheny Technologies Incorporated	ATI	\$ 20.25	67.9% - 118.9%	4,116.7	4,143.3	444.5	10.7%	27.2%	0.99x	1.00x	9.3x	8.6x	
Arconic Inc.	ARNC	\$ 26.00	94.9% - 166.3%	16,778.6	14,228.0	1,930.0	13.6%	5.3%	1.18x	1.16x	8.7x	7.4x	
Astronics Corporation	ATRO	\$ 29.38	66.3% - 113.7%	1,108.8	812.9	98.1	12.1%	26.4%	1.36x	1.47x	11.3x	11.8x	
CPI Aerostructures, Inc.	CVU	\$ 8.22	86.1% - 141.0%	132.9	94.2	10.3	11.0%	17.3%	1.41x	1.29x	12.9x	9.6x	
Hexcel Corporation	HXL	\$ 81.94	94.2% - 153.2%	8,179.8	2,320.4	546.8	23.6%	6.6%	3.53x	3.37x	15.0x	14.0x	
Honeywell International Inc.	HON	\$ 169.20	94.8% - 137.0%	129,975.2	38,618.0	8,674.0	22.5%	5.9%	3.37x	3.51x	15.0x	14.7x	
Ducommun Incorporated	DCO	\$ 42.40	81.5% - 127.3%	735.7	677.1	75.8	11.2%	5.4%	1.09x	1.05x	9.7x	8.6x	
FACC AG	WBAG:FACC	\$ 11.74	53.3% - 118.9%	774.3	875.8	60.9	7.0%	20.7%	0.88x	0.87x	12.7x	9.1x	
Héroux-Devtek Inc.	TSX:HRX	\$ 12.99	84.7% - 155.7%	677.8	414.0	61.0	14.7%	10.2%	1.64x	1.53x	11.1x	9.7x	
Innovative Solutions and Support, Inc.	ISSC	\$ 4.70	79.1% - 232.7%	57.7	16.4	0.7	4.1%	na	3.51x	na	85.7x	na	
JAMCO Corporation	TSE:7408	\$ 14.09	45.3% - 107.0%	581.8	748.8	51.5	6.9%	na	0.78x	0.69x	11.3x	na	
Kaman Corporation	KAMN	\$ 59.46	88.1% - 115.8%	1,981.8	1,858.6	159.9	8.6%	19.7%	1.07x	2.64x	12.4x	20.0x	
Latécoère S.A.	ENXTPA:LAT	\$ 4.19	94.2% - 165.5%	534.7	811.1	54.4	6.7%	15.3%	0.66x	0.71x	9.8x	9.2x	
Lisi S.A.	ENXTPA:FII	\$ 27.70	81.4% - 135.1%	1,906.0	1,971.4	285.0	14.5%	11.4%	0.97x	1.04x	6.7x	7.2x	
Magellan Aerospace Corporation	TSX:MAL	\$ 11.25	77.4% - 112.8%	695.4	775.9	118.2	15.2%	3.1%	0.90x	0.91x	5.9x	5.6x	
Meggitt PLC	MGMT	\$ 7.81	98.2% - 154.9%	7,407.2	2,794.8	451.1	16.1%	12.2%	2.65x	2.67x	16.4x	12.1x	
Moog Inc.	MOG.A	\$ 81.12	82.3% - 118.6%	3,608.0	2,840.3	356.4	12.5%	11.5%	1.27x	1.25x	10.1x	9.8x	
RBC Bearings Incorporated	ROLL	\$ 165.91	96.7% - 134.3%	4,107.2	709.2	181.0	25.5%	12.5%	5.79x	5.60x	22.7x	21.8x	
Senior plc	LSE:SNR	\$ 2.28	56.8% - 100.5%	1,289.2	1,447.7	170.4	11.8%	7.9%	0.89x	0.91x	7.6x	7.0x	
SIFCO Industries, Inc.	SIF	\$ 2.71	49.6% - 105.4%	35.6	111.8	(0.6)	-0.5%	na	0.32x	na	na	na	
Spirit AeroSystems Holdings, Inc.	SPR	\$ 82.24	82.0% - 127.5%	9,407.3	7,632.9	1,196.7	15.7%	8.2%	1.23x	1.18x	7.9x	7.7x	
Triumph Group, Inc.	TGI	\$ 22.88	88.0% - 205.0%	2,635.6	3,262.3	216.9	6.6%	25.1%	0.81x	0.88x	12.2x	10.2x	
TransDigm Group Incorporated	TDG	\$ 520.67	93.8% - 169.4%	42,134.4	4,897.0	2,174.0	44.4%	8.9%	8.60x	6.92x	19.4x	16.2x	
Woodward, Inc.	WWD	\$ 107.83	90.5% - 157.6%	8,024.1	2,883.0	524.1	18.2%	10.3%	2.78x	2.73x	15.3x	14.1x	
		Mean	80.6% - 142.4%	\$ 9,878.2	\$ 3,799.8	\$ 713.7	13.4%	12.7%	1.96x	1.94x	17.3x	11.4x	
		Median	84.7% - 135.1%	\$ 1,906.0	\$ 1,447.7	\$ 170.4	12.1%	10.9%	1.23x	1.25x	11.7x	9.8x	

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.

## 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		
		30-Sep-19	High-Low	Value	LTM	LTM	LTM Margin	2020 E Growth	LTM	2019 E	LTM	2019 E	
MRO, Parts & Supply Chain													
AAR Corp.	AIR	\$ 41.13	82.4% - 137.8%	\$ 1,683.9	\$ 2,127.0	\$ 156.4	7.4%	4.3%	0.79x	0.78x	10.8x	9.6x	
HEICO Corporation	HEI	\$ 124.88	84.4% - 174.7%	15,681.8	1,991.0	527.8	26.5%	7.9%	7.88x	7.51x	29.7x	28.3x	
Wesco Aircraft Holdings, Inc.	WAIR	\$ 11.01	93.4% - 149.2%	1,879.3	1,671.0	140.5	8.4%	16.9%	1.12x	1.09x	13.4x	10.0x	
MTU Aero Engines AG	XTRA:MTX	\$ 265.84	94.8% - 156.7%	15,365.5	5,304.4	876.5	16.5%	10.4%	2.90x	2.94x	17.5x	15.3x	
Singapore Technologies (ST Aerospace)	SGX:S63	\$ 2.78	88.3% - 113.9%	9,814.7	5,107.8	647.4	12.7%	11.8%	1.92x	1.77x	15.2x	14.0x	
TAT Technologies Ltd.	TATT	\$ 4.84	65.8% - 100.4%	36.1	93.3	1.4	1.5%	na	0.39x	na	26.2x	na	
VSE Corporation	VSEC	\$ 34.09	86.3% - 141.7%	682.2	709.0	82.4	11.6%	na	0.96x	na	8.3x	na	
		Mean	85.1% - 139.2%	\$ 6,449.1	\$ 2,429.1	\$ 347.5	12.1%	10.3%	2.28x	2.82x	17.3x	15.4x	
		Median	86.3% - 141.7%	\$ 1,879.3	\$ 1,991.0	\$ 156.4	11.6%	10.4%	1.12x	1.77x	15.2x	14.0x	
Aviation Services													
AerCap Holdings N.V.	AER	\$ 54.75	94.5% - 151.4%	\$ 35,806.3	\$ 4,872.5	\$ 2,580.6	53.0%	-3.1%	7.35x	7.29x	13.9x	8.4x	
Aircastle Limited	AYR	\$ 22.43	95.2% - 142.4%	6,684.7	918.6	na	na	6.7%	7.28x	7.63x	na	8.3x	
Air Lease Corporation	AL	\$ 41.82	90.2% - 148.7%	17,376.1	1,838.1	na	na	26.9%	9.45x	8.62x	na	9.3x	
Air T, Inc.	AIRT	\$ 18.78	63.6% - 150.1%	121.6	244.7	14.9	6.1%	na	0.50x	na	8.1x	na	
Air Transport Services Group, Inc.	ATSG	\$ 21.02	81.4% - 123.2%	2,681.8	1,168.5	381.6	32.7%	9.8%	2.30x	1.93x	7.0x	5.9x	
Arotech Corporation	ARTX	\$ 2.94	80.3% - 182.6%	99.8	91.5	4.8	5.3%	36.5%	1.09x	1.01x	20.7x	13.8x	
Atlas Air Worldwide Holdings, Inc.	AAWW	\$ 25.23	39.1% - 106.9%	3,520.3	2,765.2	529.8	19.2%	6.3%	1.27x	1.23x	6.6x	6.9x	
BBA Aviation plc	LSE:BBA	\$ 3.84	95.5% - 150.8%	6,378.8	2,585.7	429.1	16.6%	-1.5%	2.47x	2.45x	14.9x	11.0x	
CAE Inc.	TSX:CAE	\$ 25.43	91.3% - 152.3%	8,602.7	2,605.1	484.0	18.6%	13.0%	3.30x	3.13x	17.8x	13.6x	
Gogo Inc.	GOGO	\$ 6.03	77.1% - 228.4%	1,552.3	847.7	130.3	15.4%	27.0%	1.83x	1.87x	11.9x	13.4x	
		Mean	80.8% - 153.7%	\$ 8,282.4	\$ 1,793.8	\$ 569.4	20.8%	13.5%	3.68x	3.91x	12.6x	10.1x	
		Median	85.8% - 150.5%	\$ 4,949.6	\$ 1,503.3	\$ 405.4	17.6%	9.8%	2.38x	2.45x	12.9x	9.3x	

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		
		30-Sep-19	High-Low	Value	LTM	LTM	LTM Margin	2020 E Growth	LTM	2019 E	LTM	2019 E	
Airframe & Engine OEM													
Airbus SE	ENXTPA:AIR	\$ 129.97	89.0% - 153.8%	\$ 104,758.3	\$ 79,202.3	\$ 7,736.7	9.8%	16.5%	1.32x	1.37x	13.5x	10.3x	
The Boeing Company	BA	\$ 380.47	85.3% - 130.1%	226,201.9	92,155.0	7,317.0	7.9%	218.1%	2.45x	2.64x	30.9x	37.0x	
Bombardier Inc.	TSX:BBD.B	\$ 1.35	38.0% - 117.0%	12,301.8	15,776.0	1,016.0	6.4%	43.0%	0.78x	0.74x	12.1x	10.0x	
Dassault Aviation SA	ENXTPA:AM	\$ 1,415.33	80.2% - 117.7%	6,781.8	7,388.7	763.6	10.3%	-9.4%	0.92x	0.90x	8.9x	8.9x	
Embraer S.A.	BOVESPA:EMBR3	\$ 4.30	77.6% - 105.7%	2,260.4	5,205.7	292.5	5.6%	113.7%	0.43x	0.43x	7.7x	9.1x	
General Electric Company	GE	\$ 8.94	64.9% - 134.2%	194,590.0	120,782.0	15,007.0	12.4%	13.0%	1.61x	1.67x	13.0x	15.3x	
Rolls-Royce Holdings plc	LSE:RR.	\$ 9.75	79.0% - 109.5%	21,671.4	20,491.0	779.0	3.8%	25.9%	1.06x	1.14x	27.8x	10.4x	
Safran SA	ENXTPA:SAF	\$ 157.51	99.3% - 144.5%	72,959.0	27,434.0	5,144.5	18.8%	8.2%	2.66x	2.76x	14.2x	14.0x	
Textron Inc.	TXT	\$ 48.96	67.4% - 115.7%	14,861.9	13,286.0	1,586.0	11.9%	4.7%	1.12x	1.08x	9.4x	9.0x	
United Technologies Corporation	UTX	\$ 136.52	94.5% - 135.9%	161,079.5	72,553.0	12,780.0	17.6%	8.0%	2.22x	2.09x	12.6x	11.7x	
		Mean	77.5% - 126.4%	\$ 81,746.6	\$ 45,427.4	\$ 5,242.2	10.5%	44.2%	1.46x	1.48x	15.0x	13.6x	
		Median	79.6% - 123.9%	\$ 47,315.2	\$ 23,962.5	\$ 3,365.3	10.1%	14.7%	1.22x	1.25x	12.8x	10.3x	
Defense Contractors													
AeroVironment, Inc.	AVAV	\$ 53.56	47.1% - 110.2%	\$ 991.2	\$ 323.1	\$ 50.9	15.8%	4.0%	3.07x	2.87x	19.5x	20.1x	
BAE Systems plc	LSE:BA.	\$ 6.89	88.8% - 127.5%	26,717.9	22,027.4	2,569.5	11.7%	5.6%	1.21x	1.08x	10.4x	8.7x	
Elbit Systems Ltd.	TASE:ESLT	\$ 165.56	98.3% - 141.9%	7,977.6	4,058.7	459.8	11.3%	9.0%	1.97x	1.73x	17.4x	15.4x	
General Dynamics Corporation	GD	\$ 181.68	87.5% - 126.3%	67,986.0	38,288.0	5,380.0	14.1%	6.3%	1.78x	1.73x	12.6x	12.5x	
Herkules S.A.	HRS	\$ 0.30	37.7% - 104.3%	33.5	36.0	8.0	22.1%	na	0.93x	na	4.2x	na	
Huntington Ingalls Industries, Inc.	HII	\$ 211.79	80.7% - 121.9%	10,638.2	8,550.0	1,065.0	12.5%	11.5%	1.24x	1.21x	10.0x	10.6x	
Kratos Defense & Security Solutions, Inc.	KTOS	\$ 18.60	74.1% - 156.1%	2,206.3	672.1	60.5	9.0%	29.2%	3.28x	3.02x	36.5x	29.5x	
L3Harris Technologies, Inc.	LHX	\$ 208.64	96.0% - 169.3%	49,731.8	6,801.0	1,601.0	23.5%	18.6%	7.31x	2.84x	31.1x	15.9x	
Leonardo S.p.a.	BIT:LDO	\$ 11.77	90.7% - 144.8%	11,450.9	14,352.5	1,650.0	11.5%	10.3%	0.80x	0.81x	6.9x	6.4x	
Lockheed Martin Corporation	LMT	\$ 390.06	97.5% - 161.7%	124,226.5	57,492.0	9,060.0	15.8%	11.2%	2.16x	2.10x	13.7x	12.9x	
Mercury Systems, Inc.	MRCY	\$ 81.17	90.8% - 197.2%	4,244.6	654.7	125.7	19.2%	16.9%	6.48x	6.00x	33.8x	28.3x	
Northrop Grumman Corporation	NOC	\$ 374.79	97.6% - 167.6%	78,333.8	32,886.0	5,306.0	16.1%	9.0%	2.38x	2.30x	14.8x	16.6x	
Raytheon Company	RTN	\$ 195.24	93.3% - 135.3%	58,891.6	28,054.0	4,104.0	14.6%	7.8%	2.10x	2.02x	14.3x	11.0x	
Thales S.A.	ENXTPA:HO	\$ 115.04	85.2% - 111.9%	29,606.5	18,880.6	2,117.2	11.2%	9.8%	1.57x	1.46x	14.0x	10.8x	
		Mean	83.2% - 141.1%	\$ 33,788.3	\$ 16,648.3	\$ 2,397.0	14.9%	11.5%	2.59x	2.25x	17.1x	15.3x	
		Median	89.8% - 138.6%	\$ 19,084.4	\$ 11,451.3	\$ 1,625.5	14.3%	9.8%	2.03x	2.02x	14.2x	12.9x	

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.

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