



Aerospace & Defense

Market Monitor

Winter 2016

MOSS ADAMS CAPITAL_{LLC}

Aerospace in January 2016

- **Low Oil Prices** are leading to record profits for the airlines. While it will likely bring competitive price pressure, the lower fuel costs will be a net positive for the carriers.
- **On-Going Demand for Fuel Efficiency.** The airline industry remains extremely competitive, and new aircraft, with new fuel efficient engines, are crucial for the major carriers to remain competitive.
- **Success for the 737Max and A320neo.** Boeing rolled out its 737Max and the first test flight went as planned. Airbus A320neo is flying as well. These two single-aisle aircraft, with new fuel-efficient engines, account for 64% of new orders, and 56% of the backlog at the end of 2015.
- **Record Deliveries for Boeing.** Boeing delivered a record 762 aircraft in 2015. Production rates are increasing for most aircraft, while new orders are slowing.
- **Valuations Remain Higher than Overall Market.** Valuations of small-cap aerospace companies are still ahead of the general S&P500, but investor concerns about the global market and slowing orders has taken about a 1x EBITDA multiple off values. As an example, Boeing stock was at roughly \$120 at end of January compared to \$145 at end of 2015.
- **Aerospace M&A Remains Active.** Both strategic and financial investors remain aggressive in consolidating suppliers within both the commercial and defense aerospace markets. Private-equity backed companies have emerged as strategic buyers themselves as they consolidate multiple suppliers and gain efficiencies.
- **You Will Get Calls.** The owners of private aerospace suppliers will continue to get unsolicited calls from inquiring buyers. Being ready and prepared will protect value.

Production Rates Rise as Orders Head Down

New Aircraft Orders

	Orders in 2012	Orders in 2013	Orders in 2014	Orders in 2015	Change in 2015
Single-aisle	2,192	2,498	2,834	1,632	(1,202)
Widebody	286	689	605	385	(220)
Total	2,478	3,187	3,439	2,017	(1,422)

Order Intake is falling.

Aircraft Deliveries

	Delivered in 2012	Delivered in 2013	Delivered in 2014	Delivered in 2015	Change in 2015
Single-aisle	870	933	975	986	11
Widebody	319	341	377	411	34
Total	1,189	1,274	1,352	1,397	45

Deliveries continue to rise.

Aircraft Backlog

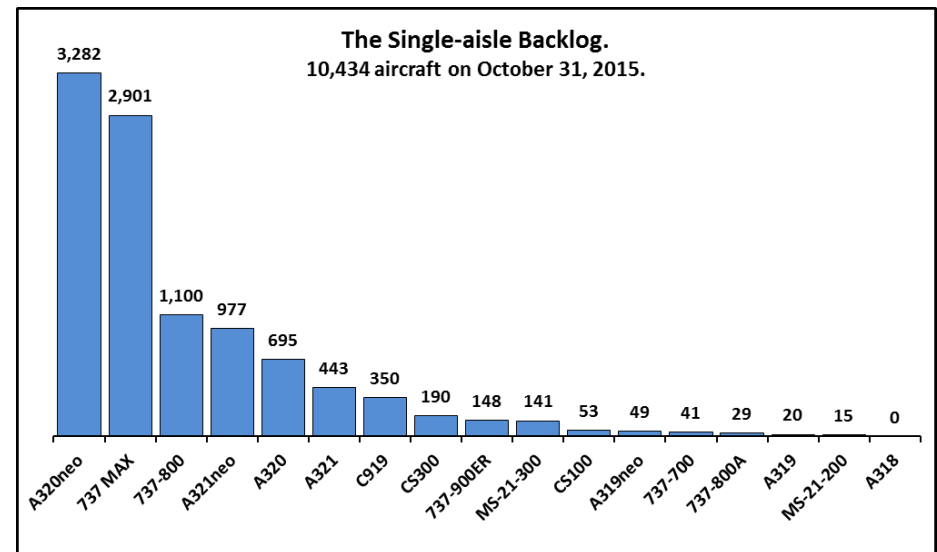
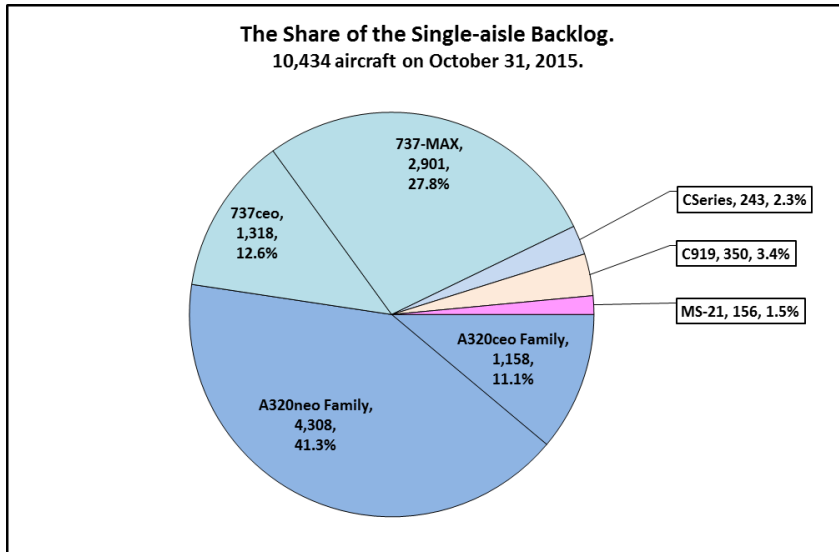
	Backlog Dec. 31, 2012	Backlog Dec. 31, 2013	Backlog Dec. 31, 2014	Backlog Dec. 31, 2015	Change in 2015
Single-aisle	7,327	8,636	10,177	10,676	499
Widebody	2,352	2,661	2,747	2,655	(92)
Total	9,679	11,297	12,924	13,331	407

Growth in backlog is slowing.

- Valuations for publicly-traded aerospace companies are down from mid-year 2015.
- Volatility in January 2016 has placed additional pressure on valuations.

Source: Aerospace Market News, January 2016.

Single-Aisle Dominates the Backlog.



- Single-aisle demand is driven by new-engine options ... the largest gains are for A320neo, 737 MAX, and the A319neo.
- Nearly 60% of the backlog is A320neo and 737 MAX (with over 6,100 aircraft). This is up from beginning of year.
- The rate of order intake is slowing in 2015 compared to prior years.
- Boeing production rate still rising for 737. Suppliers are keeping pace.
- In the U.S., suppliers to the 737 program have 7-8 years of predictable backlog ahead.

Source: Aerospace Market News, December 2015.

Valuation Alert: January Volatility – Impacting Aerospace Valuations

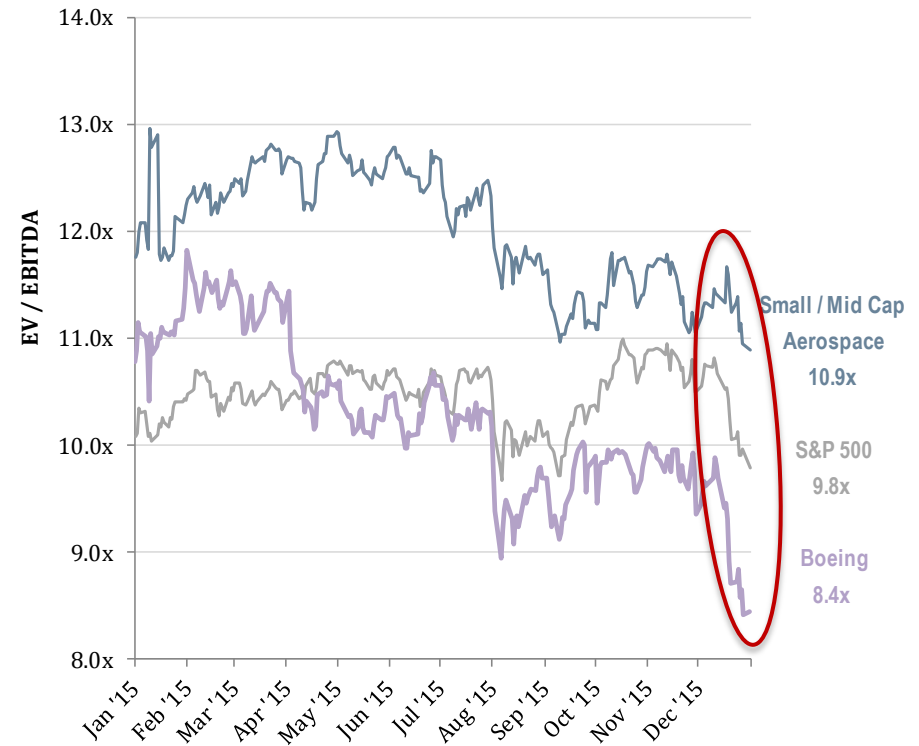
- Public market valuations are down over a one year period, and in particular, over the last two weeks, due to uncertainty about earnings growth, China's economy, oil prices, currencies, and long-term interest rates.
- Over a one year period, equity investments in small and mid-Cap aerospace companies have lost 14% versus a loss of 7% for the overall S&P 500 index, and a loss of 4% for Boeing.
- Trading multiples for Small and Mid-Cap aerospace suppliers are at an average of 10.9x EBITDA, while the S&P 500 is trading at 9.8x EBITDA and Boeing at 8.4x.

Small / Mid Cap Aerospace Stock Performance



Note: Small and Mid-Cap Aerospace companies are composed of the public companies included on slide 5.
Source: Capital IQ as of 1/19/16.

EBITDA Multiples



Small/Mid-Cap Aerospace Firms: Valuations

(\$US in millions, except where noted and per share amounts)

Company Name	Share Price	52 week High/Low	Market Cap	Enterprise Value	TTM Data			NTM Est. Growth		EV Multiple			
					Sales	EBITDA	Margin	Sales	EBITDA	TTM Sales	TTM EBITDA	NTM Sales	NTM EBITDA
Small/Mid Cap Aerospace													
B/E Aerospace Inc.	\$38.01	\$64.58 / \$37.35	\$3,973	\$5,842	\$2,708	\$514	19.0%	4.2%	16.6%	2.2x	11.4x	2.1x	9.7x
TransDigm Group Incorporated	220.82	244.90 / 200.00	13,446	21,234	2,707	1,204	44.5%	16.2%	19.5%	7.8x	17.6x	6.7x	14.8x
Spirit AeroSystems Holdings, Inc.	43.98	57.99 / 41.46	5,997	6,096	6,609	1,033	15.6%	2.9%	4.2%	0.9x	5.9x	0.9x	5.7x
Hexcel Corp.	38.93	54.72 / 38.46	3,678	4,232	1,868	398	21.3%	4.1%	14.5%	2.3x	10.6x	2.2x	9.3x
Esterline Technologies Corp.	74.68	120.45 / 69.77	2,211	2,911	1,936	280	14.5%	5.9%	20.2%	1.5x	10.4x	1.4x	8.7x
Teledyne Technologies Inc.	77.01	111.81 / 76.49	2,729	3,371	2,320	382	16.5%	(0.5%)	0.4%	1.5x	8.8x	1.5x	8.8x
Triumph Group, Inc.	32.04	70.68 / 31.20	1,580	3,145	3,912	351	9.0%	0.0%	81.1%	0.8x	8.9x	0.8x	4.9x
Moog Inc.	52.40	77.28 / 51.02	1,923	2,690	2,526	337	13.3%	1.3%	2.8%	1.1x	8.0x	1.1x	7.8x
Curtiss-Wright Corporation	65.75	77.57 / 58.00	3,006	3,717	2,190	381	17.4%	3.3%	20.6%	1.7x	9.7x	1.6x	8.1x
HEICO Corporation	52.37	63.73 / 47.24	3,219	3,728	1,189	278	23.4%	9.2%	8.6%	3.1x	13.4x	2.9x	12.4x
AAR Corp.	21.88	34.24 / 18.39	767	838	1,598	61	3.8%	9.5%	151.1%	0.5x	13.8x	0.5x	5.5x
Astronics Corporation	32.23	77.35 / 31.70	825	1,011	701	129	18.4%	2.0%	5.7%	1.4x	7.8x	1.4x	7.4x
Ducommun Inc.	12.89	33.45 / 12.59	143	391	697	51	7.4%	(5.1%)	34.9%	0.6x	7.6x	0.6x	5.6x
LMI Aerospace Inc.	9.13	14.79 / 9.09	121	391	374	39	10.3%	5.1%	24.3%	1.0x	10.1x	1.0x	8.1x

as of January 19, 2016

Median	\$3,258	\$2,063	\$344	16.0%	3.7%	18.0%	1.4x	9.9x	1.4x	8.1x
Average	\$4,257	\$2,238	\$388	16.7%	4.2%	28.9%	1.9x	10.3x	1.8x	8.3x

Note: Not meaningful (NM) if EV/Sales is greater than 10x, or EV/EBITDA is greater than 20x. NA if denominator is 0, for percentages and multiples, or if estimates are not available. NTM figures are based on the median estimate of Wall St. analysts.
Source: Capital IQ as of 1/19/16.

Recent A&D Transactions with Disclosed Value

\$ in millions

Announced	Acquirer/Investor	Target	Target Description	Transaction Value	Metric
02/03/16	Liberty Hall Capital Partners, L.P.	AIM Aerospace, Inc.	Designs, manufactures, and supplies interiors, composites, ducting and tooling products to airlines and original equipment manufacturers worldwide.	\$220.0	
01/08/16	GE Aviation	Convergence Fuel Systems, LLC	Designs and manufactures fuel systems for commercial aerospace applications	\$323.4	
12/21/15	HEICO Electronic Technologies Corp.	Robertson Fuel Systems, LLC	Develops, manufactures, and markets primary and auxiliary fuel systems for rotary and fixed wing aircraft and ground combat vehicles.	\$255.0	
11/19/15	Senior plc (LSE:SNR)	STEICO Industries Inc.	Manufactures precision tube and welded assemblies for aerospace companies	\$75.0	2.03x Rev
11/19/15	TransDigm Group Incorporated (NYSE:TDG)	Breeze-Eastern Corporation (AMEX:BZC)	Designs, develops, manufactures, sells and services engineered mission equipment.	\$197.0	1.8x Rev; 8.0x EBITDA
10/22/15	Benchmark Electronics Inc. (NYSE:BHE)	Secure Communication Systems Inc.	Designs and manufactures tactical mission computing products	\$230.0	
10/13/15	L-3 Communications Holdings Inc. (NYSE:LLL)	L-3 ForceX	Provides navigation, surveillance, tracking, command and control, and situational awareness solutions to customers in security and defense industries.	\$60.0	
09/25/15	Kolon Glotech, Inc.	DACC Co., Ltd	Manufactures carbon / carbon-composites for aircraft brake disks, as well as high temperature jigs and fixtures.	\$22.3	0.9x Rev
09/23/15	BBA Aviation plc (LSE:BBA)	Landmark Aviation, L.L.C.	Provides end-to-end services for business and general aviation customers. One of the largest FBO networks in the world.	\$2,065.0	2.9x Rev; 18.0x EBITDA
09/22/15	Meggitt (Rockmart), Inc.	EDAC Composites LLC	Produces composites for the aerospace & defense industries.	\$340.0	2.9x Rev; 10.6x EBITDA
09/16/15	Aerojet Rocketdyne Holdings, Inc. (NYSE:AJRD)	United Launch Alliance, LLC	Provides space launch services.	\$2,000.0	
09/09/15	Versar Inc.	Johnson Controls Security Systems, LLC	Serves Federal clients by designing, installing and supporting physical security, network security, and facilities management systems.	\$20.0	0.6x Rev
08/27/15	The Carlyle Group LP	Novetta Solutions, LLC	Provides advanced analytics software and solutions to detect threat and fraud, for government and commercial enterprises worldwide.	\$650.0	14.4x EBITDA

Source: Capital IQ as of 02/03/16.

Recent A&D Transactions with Disclosed Value *(continued)*

\$ in millions

Announced	Acquirer/Investor	Target	Target Description	Transaction Value	Metric
08/10/15	Berkshire Hathaway Inc. (NYSE:BRK.A)	Precision Castparts Corp. (NYSE:PCP)	Manufactures and sells metal components and products to the aerospace, power, and general industrial markets.	\$37,916.7	3.7x Rev; 13.9x EBITDA
08/07/15	Sunvair Aerospace	Aviation Avionics & Instruments, Inc.	Aircraft repair company.	\$29.0	
08/06/15	Rockwell Collins Inc.	International Communications Group, Inc.	Designs, develops, and manufactures communications systems and solutions for aerospace & defense industry.	\$50.0	
07/30/15	Sensata Technologies Holding NV	Custom Sensors & Technologies, Inc.	Comprised of sensing product lines and brands, including Kavlico, BEI, Crydom, and Newall.	\$1,000.0	3.1x Rev
07/28/15	TransDigm Group Incorporated (NYSE:TDG)	PneuDrualics, Inc.	Develops and manufactures precision hydraulic components for the aerospace industry.	\$325.0	
07/28/15	GKN plc	Fokker Technologies Group B.V.	Supplies aerostructures, electrical wiring systems, landing gear, etc. for the military and business jet end markets.	\$778.3	0.8x Rev; 9.2x EBITDA
07/27/15	Precision Castparts Corp. (NYSE:PCP)	Noranco Inc.	Manufactures aerostructures, landing gear systems, and aero engine precision components.	\$560.0	10.0x EBITDA
07/20/15	Lockheed Martin Corporation (NYSE:LMT)	Sikorsky Aircraft Corporation	Designs, manufactures, and services commercial and military helicopters.	\$9,000.0	1.2x Rev; 13.0x EBITDA
06/30/15	H-D Advanced Manufacturing Company	Firstmark Corporation	Manufactures and sells components and sub-assemblies for aerospace and defense applications.	\$84.0	
06/29/15	Ballard Power Systems Inc.	Protonex Technology Corporation	Manufactures power management products.	\$25.1	1.8x Rev
06/19/15	Astro-Med, Inc.	RITEC Corporation	Designs and manufactures computer and related peripheral products for the military and aerospace industries.	\$7.4	
06/09/15	Global Defense & National Security Systems, Inc.	STG Incorporated	Provides a variety of services including cyber security and intelligence solutions.	\$165.5	0.8x Rev; 9.0x EBITDA
06/01/15	Handy & Harman Group Ltd.	JPS Industries, Inc.	Manufactures materials for highly engineered products.	\$110.7	0.7x Rev

Source: Capital IQ as of 02/03/16.

Recent A&D Transactions with Disclosed Value *(continued)*

\$ in millions

Announced	Acquirer/Investor	Target	Target Description	Transaction Value	Metric
06/01/15	Apollo Global Management, LLC	OM Group Inc.	Develops and manufactures magnetic materials, chemicals, batteries, and battery management systems.	\$1,037.0	1.0x Rev; 12.0x EBITDA
06/01/15	Ultra Electronics Defense, Inc.	Kratos Defense & Security Solutions, Inc., Electronic Products Division	Manufactures systems, subsystems, and components for electronic warfare, missile, radar, intelligence surveillance, and reconnaissance programs.	\$265.0	1.2x Rev; 12.0x EBITDA
05/28/15	L3 Communications Holdings, Inc.	CTC Aviation Group Ltd	Operates as an airline training organization.	\$218.5	2.5x Rev
05/26/15	Veritas Capital	StandardAero Business Aviation Services, LLC	Provides MRO services and custom solutions for aircraft and rotorcraft engines.	\$2,275.0	1.3x Rev; 11.9x EBITDA
05/21/15	Cyberit Ltd.	NICE Systems Ltd., Cyber and Intelligence Division	Provides cyber and intelligence solutions.	\$157.9	2.0x Rev
05/15/15	Magellan Aerospace Corp.	Euravia Engineering & Supply Co. Ltd	Operates as an aviation company that provides repair and overhaul services for a range of gas turbines, and engine and airframe components.	\$47.0	2.2x Rev
05/18/15	Ametek Inc.	Global Tubes	Manufactures precision engineered tube products.	\$500.0	1.7x Rev
04/30/15	TransDigm Group Incorporated (NYSE:TDG)	Pexco LLC, Aerospace Business	Designs, fabricates, and delivers custom plastic extrusion products for specialty uses in industries including aerospace and defense.	\$336.0	2.2x Rev; 10.0x EBITDA
04/28/15	ManTech International Corporation	Welkin Associates, Ltd	Provides systems engineering and technical assistance support (SETA) to the US government and commercial clients.	\$34.0	1.0x Rev
04/23/15	API Technologies Corp.	Aeroflex/Inmet Inc. and Aeroflex / Weinschel, Inc.	A portfolio of aerospace parts manufacturers and test equipment.	\$80.0	1.6x Rev
04/14/15	Sparton Corp.	Hunter Technology Corporation	Provides electronic design and manufacturing services for a variety of industries, including A&D.	\$68.0	0.8x Rev
04/09/15	Insitu, Inc.	2d3 Inc.	Provides science solutions for industrial, defense, and entertainment applications.	\$24.8	3.0x Rev
04/01/15	Adams Rite Aerospace, Inc.	Adams Rite Aerospace, Inc.	Designs and manufactures control and security systems for customers in the commercial, military, and general aviation aerospace markets.	\$75.0	1.7x Rev; 8.3x EBITDA

Source: Capital IQ as of 02/03/16.

Recent A&D Transactions with Disclosed Value *(continued)*

Announced	Acquirer/Investor	Target	Target Description	Transaction Value	Metric
04/01/15	ITT Corporation	Hartzell Aerospace Group	Designs and manufactures a variety of products for use in the aerospace industry.	\$53.1	1.6x Rev; 8.5x EBITDA
03/26/15	Roller Bearing Company of America, Inc.	Avborne Accessory and Sonic Industries and Sargent Aerospace Canada	Provides repair and overhaul services to the commercial and military aviation industry worldwide.	\$500.0	2.6x Rev; 9.4x EBITDA
03/20/15	Better Capital PCC Limited	CAV Aerospace Limited	Manufactures aerostructures and ice protection systems.	\$59.7	
03/09/15	Alcoa Inc. (NYSE:AA)	RTI International Metals, Inc. (NYSE:RTI)	Supplies titanium mill products for the commercial aerospace sector, along with other industries.	\$1,821.0	1.9x Rev; 12.9x EBITDA
03/01/15	Science Applications International Corporation	Scitor Corporation	Provides engineering and integration services for a range of industries including aerospace.	\$790.0	1.3x Rev; 15.2x EBITDA
02/23/15	TransDigm Group Incorporated (NYSE:TDG)	Telair International GmbH and Nordisk Aviation Products	Manufactures, and supports on-board baggage and cargo handling systems for wide and narrow body aircrafts.	\$725.0	2.4x Rev; 12.1x EBITDA
02/06/15	Harris Corporation (NYSE:HRS)	Exelis Inc.	Provides (C4ISR) electronics and systems in the United States and internationally.	\$5,193.2	1.4x Rev; 9.1x EBITDA
01/26/15	CAE Inc. (TSX:CAE)	Bombardier Inc., Military Aviation Training	Provides military aviation training activities.	\$15.9	
01/12/15	Onex Corporation (TSX:OCX)	Survitec Group Limited	Manufactures survival and safety equipment for marine, offshore and aviation industries.	\$680.0	1.8x Rev
01/06/15	Meggitt PLC	Precision Engine Controls Corporation	Manufactures industrial turbine control systems and related components.	\$44.2	
01/05/15	Chart Acquisition Corp. (OTCPK:CACG)	Tempus Applied Solutions, LLC	Offers aircraft engineering, integration and operations solutions to support missions of the U.S.	\$100.2	

	Deal	Revenue	EBITDA
	Size	Multiple	Multiple
Transactions Represented	50	32	20
Median	\$219.3	1.7x	11.3x
Mean	\$1,432.2	1.8x	11.4x

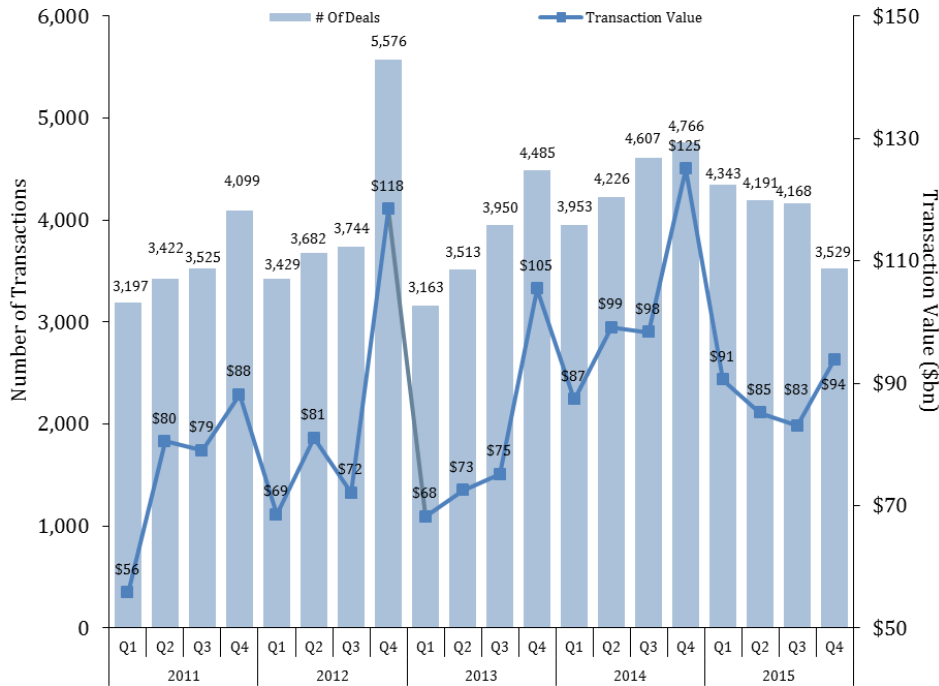
Source: Capital IQ as of 02/03/16.

Middle Market M&A Volume Declines in Q4 after Historic Q1-Q3 2015

- Overall, 2015 was a record year for M&A with transaction values totaling \$4.7 trillion, according to Thomson Reuters
- In Q4 2015, U.S. middle market M&A deal volumes declined 15% from Q3 2015, and declined 26% from Q4 2015.
- U.S. middle market M&A activity, measured by deal values, remained consistent with prior quarters at \$94 billion of aggregate transaction value closed in Q4.

- EBITDA multiples in middle market transactions in Q4 2015 finished the quarter at 8.3x EBITDA, equal to the 5 year average for this metric and up from Q2 and Q3 2015.
- Q4 2015 EBITDA margins of reportable transactions surged also remained consistent with the 5 year average for this metric. Reported EBITDA margins in Q4 2015 were 9%, while the 5 year average for this metric is 8%.

U.S. MIDDLE MARKET M&A ¹

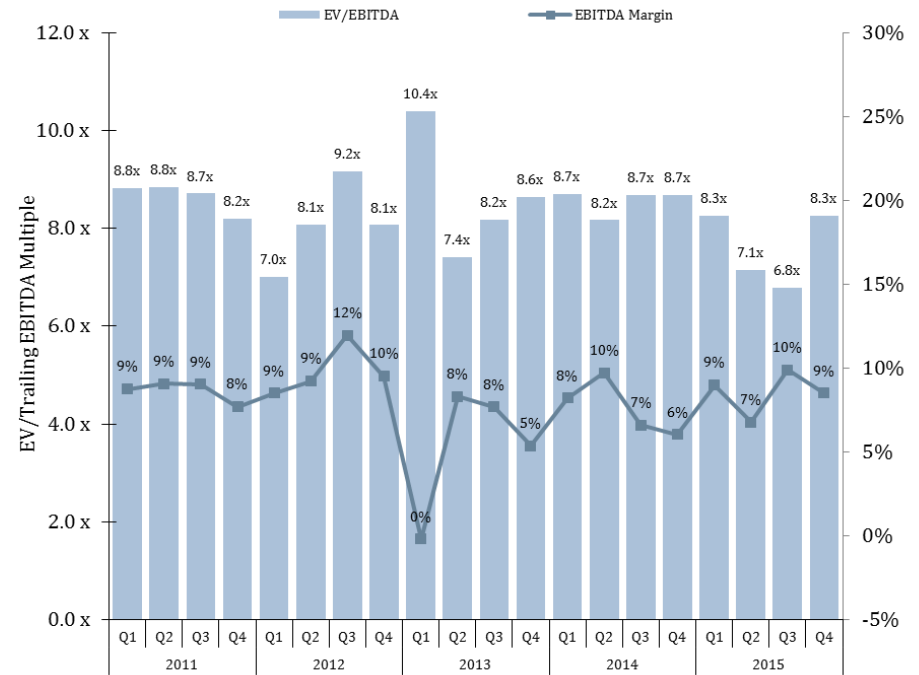


1) Middle market M&A includes transactions with undisclosed values, and disclosed values where EV < \$500 million.

2) Middle market M&A includes transactions with disclosed EBITDA, where EV < \$500 million and EV/EBITDA between 3.0x and 15.0x. Note: transactions with disclosed EBITDA represent <5% of all transactions.

Source: CapitalIQ.

U.S. MIDDLE MARKET M&A VALUATIONS ²



Moss Adams at a Glance: Leadership through Experience and Results

Moss Adams Capital LLC

- Full-service investment banking and strategic advisor services
- Dedicated industry specialists
- Focus on privately owned and family-held companies
- Mergers and acquisitions
- Private debt & equity placements
- Mezzanine capital
- Due Diligence preparation & advisory



Moss Adams LLP

- 100+ years old – Founded in 1913
- Largest accounting firm headquartered in the western U.S.
- 2,200 employees in 28 offices
- Fully integrated accounting, tax, and business advisory firm
- Middle-market specialists
- *The Moss Adams Advantage:* Discrete, highly leverageable transaction resources and services

International Presence

- Major market affiliates throughout the U.S. and more than 100 countries around world



Expert Teams for Aerospace Companies



INDUSTRY KNOWLEDGE MATCHED WITH AN EXPERIENCED TEAM

- Senior-Level Attention
- Commitment to Our Clients
- Professional Excellence
- Objective & Independent Advice
- Creating Value for Owners
- Global Presence & Capabilities

**Premier accounting and financial
services advice for middle-market
aerospace companies.**

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