

## Aerospace and Defense

### INDUSTRY SUMMARY

COGENT VALUATION Aerospace and Defense publicly traded companies, IPOs, and recent M&A transactions within the Aerospace and Defense industry, which provides a basis for market and transaction pricing that can be used by your firm in estimating market sentiment and its impact on your firm's value. Over the last year since December 31, 2017, the median 52-week share price return of the Aerospace and Defense industry was 35.1%. Between December 31, 2016 and December 31, 2018, the median EV/EBITDA multiple decreased from 12.0 to 11.9. Furthermore, the median price-to-earnings multiple decreased from 23.8 to 23.8 over the same period. The median revenue growth and EBITDA margins for the industry for the quarter were 1.9% and 10.4%, respectively.

### Public Company Key Statistics

Median 52-Week  
Return

**-15.9%**

Median Year to Date  
Return

**-9.8%**

Median EV/Revenue  
Multiple

**1.5x**

Median EV/EBITDA  
Multiple

**11.9x**

Median Price/Earnings  
Multiple

**23.8x**

Median EV/Gross CF  
Multiple

**29.1x**

## Comparable Public Company Market Price Returns as of December 31, 2018

	YTD	3 Month	1 Year	2 Year	3 Year	2016	2015	2014
AAR Corp.	21.9%	12.3%	31.2%	4.4%	8.0%	25.7%	-5.4%	-0.8%
Ability Inc.	-20.5%	-25.5%	-83.4%	N/A	N/A	-72.0%	N/A	N/A
Aerojet Rocketdyne Holdings, Inc.	8.9%	-10.4%	28.9%	0.5%	2.9%	14.6%	-14.4%	1.6%
DigitalGlobe, Inc.	99.7%	-19.0%	62.4%	9.5%	6.2%	83.0%	-49.4%	-6.5%
Ducommun Incorporated	-17.8%	-8.9%	-57.8%	10.9%	6.5%	57.6%	-35.8%	17.1%
Elbit Systems Ltd.	-34.5%	-21.4%	N/A	25.3%	26.0%	15.2%	44.0%	N/A
Embraer S.A.	-19.2%	-15.4%	-12.5%	-22.5%	-20.7%	-35.5%	-17.1%	N/A
Engility Holdings, Inc.	-4.2%	-14.1%	3.4%	6.2%	-9.5%	3.8%	-24.1%	-33.5%
Esterline Technologies Corporation	4.9%	-10.1%	17.6%	-0.3%	-6.3%	10.1%	-26.1%	30.1%
Northrop Grumman Corporation	-17.3%	-20.9%	-59.5%	27.2%	29.0%	23.2%	28.1%	-14.1%
Orbital ATK, Inc.	43.6%	48.3%	72.5%	15.8%	-9.8%	-1.8%	-23.1%	66.8%
Raytheon Company	-4.9%	8.9%	44.4%	29.9%	20.5%	14.0%	15.1%	-32.1%
Rockwell Collins, Inc.	-17.9%	8.2%	20.5%	6.7%	10.4%	0.5%	9.3%	0.0%
SIFCO Industries, Inc.	26.9%	-17.9%	48.0%	-33.2%	-40.3%	-19.5%	-67.4%	13.4%
Sparton Corporation	21.8%	4.8%	1.0%	-10.3%	-7.5%	19.3%	-29.5%	1.4%
Spirit AeroSystems Holdings, Inc.	0.6%	0.0%	34.7%	2.5%	19.8%	16.5%	16.3%	26.3%
TAT Technologies, Ltd.	53.4%	4.1%	39.9%	22.5%	11.6%	18.2%	10.8%	-16.1%
Teledyne Technologies Incorporated	3.8%	0.9%	28.9%	10.0%	9.5%	38.7%	-13.7%	11.8%
<b>Median of Industry Public Companies</b>	<b>8.4%</b>	<b>2.5%</b>	<b>26.1%</b>	<b>6.7%</b>	<b>6.5%</b>	<b>14.9%</b>	<b>-14.4%</b>	<b>3.8%</b>

■ Highest Return
 ■ Lowest Return
 ■ Median Return

## Public Company Median Multiples by Quarter

	12/31/18	9/30/18	6/30/18	3/31/18	12/31/17	6/30/16	9/30/16	12/31/16
<b>EV/Revenues Multiple</b>	1.5x	1.6x	1.5x	1.4x	1.3x	1.3x	1.1x	1.3x
<b>EV/EBITDA Multiple</b>	11.9x	13.6x	14.3x	12.1x	11.7x	10.9x	10.4x	10.6x
<b>Price/Earnings Multiple</b>	23.8x	30.2x	29.8x	23.9x	22.7x	23.2x	20.8x	20.7x
<b>EV/Gross Cash Flows Multiple</b>	29.1x	27.0x	28.1x	19.0x	19.9x	25.6x	20.1x	16.8x

■ Highest Multiple    
 ■ Lowest Multiple    
 ■ Median Multiple

## Industry Initial Public Offerings—Aerospace and Defense (dollars in millions, except share prices)

Offer Date	Company Name	Offer Price	Shares Offered	Amount Raised	Total Assets	Debt	LTM Revenues	LTM EBITDA	LTM Net Income	LTM Cash Flows
5/17/17	Velocity Composites plc	\$1.10	16.5	\$18.7	\$10.6	\$2.9	\$21.8	\$0.0	(\$0.3)	\$0.4
4/26/17	Aquabotix Technology Corporation	\$0.15	35.0	\$5.2	\$4.7	\$0.2	\$0.8	\$0.2	\$0.1	\$0.2
6/20/16	DroneShield Limited	\$0.15	35.0	\$5.2	\$4.7	N/A	N/A	N/A	N/A	N/A
6/7/16	GomSpace Group AB (publ)	\$1.54	8.0	\$12.3	\$4.0	\$1.2	\$4.9	\$0.6	\$0.2	\$0.8
11/18/15	Hizeaero Co., Ltd.	\$15.42	4.4	\$67.5	N/A	\$30.9	N/A	\$5.8	\$2.5	\$7.1
9/30/15	LIG Nex1 Co., Ltd.	\$64.19	6.9	\$442.9	\$1,569	\$136.2	\$1,475.5	\$126.3	\$58.8	\$153.2
2/23/15	Martin Aircraft Company Limited	\$0.30	67.5	\$20.3	\$1.1	\$0.0	\$0.0	(\$3.2)	(\$3.2)	(\$3.1)
12/22/14	Aerospace Technology Of Korea, Inc.	\$8.66	2.9	\$24.7	N/A	N/A	N/A	N/A	N/A	N/A
11/16/14	Strat Aero Plc	\$0.13	8.1	\$1.0	N/A	N/A	N/A	N/A	N/A	N/A
7/9/14	Starburst Holdings Limited	\$0.25	50.0	\$12.5	\$35.8	\$6.0	\$29.9	\$8.4	\$6.9	\$8.7
6/24/14	FACC AG	\$12.91	20.4	\$263.3	\$819.3	\$292.3	\$771.4	\$114.4	\$39.9	\$129.6
12/22/13	Figeac Aero Société Anonyme	\$12.59	1.9	\$24.0	\$291.5	\$113.1	\$205.1	\$39.3	\$15.3	\$50.5
6/27/13	Delta Drone SA	\$6.37	0.6	\$3.8	\$6.7	\$1.8	\$2.7	(\$0.8)	(\$0.6)	(\$0.7)
4/10/12	Erickson Incorporated	\$8.00	3.8	\$38.4	\$245.5	\$131.9	\$160.0	\$25.0	\$15.9	\$32.3
11/28/11	AVTECH Sweden AB (publ)	\$0.86	2.5	\$2.2	N/A	\$1.1	\$0.0	\$0.1	\$0.0	\$0.2
<b>Median of all IPOs</b>		<b>nm</b>	<b>nm</b>	<b>\$18.7</b>	<b>\$10.6</b>	<b>\$4.4</b>	<b>\$21.8</b>	<b>\$3.2</b>	<b>\$1.3</b>	<b>\$3.9</b>

Multiple year periods are calculated as the average annual return.

■ Highest Return    
 ■ Lowest Return    
 ■ Median Return

## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

Transaction Date	Target	Acquirer	Transaction Size	% Bought	LTM Revenues	LTM EBITDA	EV/ Revenues	EV/ EBITDA
12/18/18	<b>Aerospace Kaiyuan Technology Co., Ltd.</b>	L3 Technologies, Inc.	\$22.2	100%	\$21.3	\$34.3	1.2x	12.5x
11/26/18	<b>Beijing Aerospace Huayu Technology Co., Ltd.</b>	Héroux-Devtek Inc.	\$62.2	100%	\$7.4	N/A	N/A	N/A
11/26/18	<b>Rockwell Collins, Inc. (nka:Collins Aerospace)</b>	Northrop Grumman Corp.	\$30,943.2	100%	\$6,074.0	N/A	2.2x	N/A
7/2/18	<b>Applied Defense Solutions, Inc.</b>	TransDigm Group	\$50.0	100%	N/A	N/A	N/A	N/A
7/2/18	<b>Beaver Aerospace &amp; Defense, Inc.</b>	Safran SA	\$23.5	100%	\$30.0	N/A	N/A	N/A
6/6/18	<b>Orbital ATK, Inc.</b>	NTC Group, Inc.	\$9,429.0	100%	\$4,515.0	N/A	N/A	N/A
4/24/18	<b>Extant Components Group</b>	Zhejiang Science and Technology Investment Co., Ltd.	\$525.0	100%	N/A	\$606.3	2.8x	13.3x
3/2/18	<b>Zodiac Aerospace</b>	Littelfuse, Inc.	\$9,763.8	100%	\$5,773.4	N/A	N/A	N/A
1/9/18	<b>Tenax Aerospace, LLC</b>	Advanced Energy Industries, Inc.	\$220.0	100%	N/A	\$22.4	1.3x	15.6x
12/31/17	<b>Acro Aircraft Seating Ltd.</b>	Sonaca SA	\$73.7	100%	\$40.2	N/A	N/A	N/A
7/10/17	<b>U.S. Sensor, Corp.</b>	Liberty Hall Capital	\$24.0	86%	N/A	N/A	N/A	N/A
7/5/17	<b>Excelsys Technologies Ltd.</b>	Rockwell Collins, Inc.	\$365.7	100%	\$11.6	N/A	N/A	N/A
6/27/17	<b>LMI Aerospace, Inc.</b>	Florida Pneumatic Mfg.	\$27.5	100%	\$346.2	N/A	5.3x	N/A
6/15/17	<b>Teletronics Technology Corp.</b>	The KEYW Corporation	\$233.0	100%	\$21.3	N/A	N/A	N/A
12/22/16	<b>Pacific Safety Products Inc.</b>	Astronics Custom Control	\$11.9	100%	\$7.4	\$0.4	0.8x	26.5x
12/21/16	<b>LATECOERE Services SAS</b>	Groupe ADF SAS	\$67.4	100%	\$113.5	N/A	0.6x	N/A
12/9/16	<b>IPI Solutions Ltd.</b>	Ideagen PLC	\$8.9	100%	\$2.1	\$0.4	3.3x	16.5x
12/1/16	<b>Camber Corporation</b>	Huntington Ingalls	\$380.0	100%	\$364.0	N/A	1.0x	N/A
11/16/16	<b>The Radiant Group, Inc.</b>	DigitalGlobe, Inc.	\$140.0	100%	N/A	N/A	N/A	N/A

## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

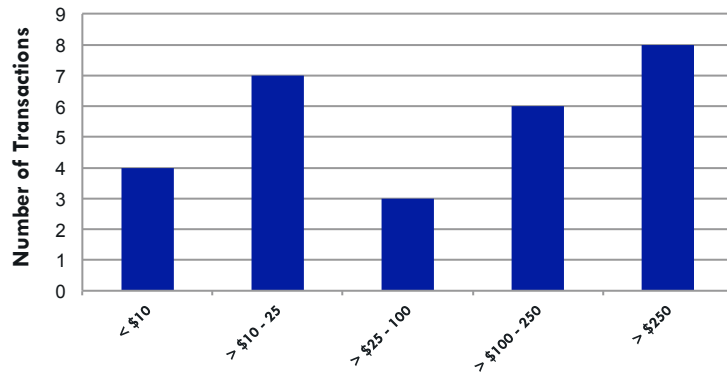
(Continued from previous page)

Transaction Date	Target	Acquirer	Transaction Size	% Bought	LTM Revenues	LTM EBITDA	EV/ Revenues	EV/ EBITDA
10/17/16	<b>NanoSpace AB</b>	<b>GS Sweden AB</b>	\$11.9	100%	\$364.0	N/A	1.0x	N/A
9/16/16	<b>Honeywell Technology</b>	<b>KBR Holdings, LLC</b>	\$67.4	100%	N/A	N/A	N/A	N/A
1/9/17	<b>American Science</b>	<b>OSI Systems, Inc.</b>	\$8.9	100%	N/A	N/A	N/A	N/A
1/4/17	<b>Crimson Trace Corporation</b>	<b>Smith &amp; Wesson</b>	\$380.0	100%	N/A	N/A	N/A	N/A
12/22/16	<b>Explomo Technical Services</b>	<b>N/A</b>	\$140.0	100%	\$103.0	(\$0.4)	1.8x	N/A
12/21/16	<b>Kreisler Manufacturing</b>	<b>United Flexible, Inc.</b>	\$140.0	100%	\$44.0	N/A	2.2x	N/A
12/9/16	<b>Sarl Techno-Meca</b>	<b>Tecnoquark Trust, S.A.</b>	\$2.2	100%	N/A	N/A	N/A	N/A
12/1/16	<b>Kent Periscopes Ltd.</b>	<b>Gooch &amp; Housego plc</b>	\$34.5	100%	\$34.4	\$3.7	0.8x	7.6x
<b>Median of the 28 M&amp;A Transaction Targets</b>			<b>\$2.8</b>	<b>100%</b>	<b>\$3.3</b>	<b>\$0.7</b>	<b>0.8x</b>	<b>4.2x</b>

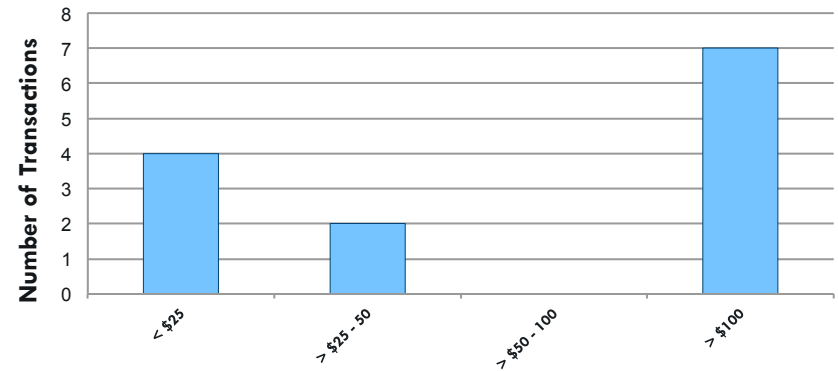
USA
  International
  Highest
  Lowest
  Median

## Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions) as of December 31, 2018

**Size of M&A Transactions**



**LTM Revenues Reported from M&A Transactions**



COGENT VALUATION is a nationally recognized full service business valuation firm that has provided independent valuation and financial advisory opinions in thousands of situations since 1991. These assignments include the valuation of companies and pass-through entities, their securities, and their intangible assets ranging in size from small, closely-held businesses and start-ups, to corporations with market values over a billion dollars, covering almost every industry and all types of transactions. With the collective backgrounds of our managing directors and professional staff, Cogent Valuation brings substantial large deal experience to bear on our middle market transaction opinions. Cogent Valuation utilizes proprietary research, intensive due diligence, and the experience and insights of its professionals to produce thoughtful, well-documented opinions that have consistently withstood the scrutiny of clients and their advisors, investors, regulators, and courts.

This industry research is provided at no charge to Cogent Valuation's clients. Research or detailed information not covered in this report can be obtained for a fee. **Contact Steven Kam at 415-392-0888 and [kam@cogentvaluation.com](mailto:kam@cogentvaluation.com)** for additional information or questions in connection with this research report.

**Definitions of Financial Terms Used in this Quarterly Industry Update:**

**Enterprise Value (EV):** Market Value of Equity + Market Value of Debt —Cash

**Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA):** Profitability metric sometimes also referred to as operating profit or operating earnings.

**Gross Cash Flows:** Net Income + Depreciation and Amortization Expense Latest Twelve Months (LTM): Financial information is as of the latest twelve months through the date of this Quarterly Industry Update.

**Disclosures and Limitations:** This research report is for informational and discussion purposes only. Information presented herein is not investment advice of any kind to any person and does not constitute a recommendation as to the purchase or sale of any interests or as to any other course of action. General, financial, and statistical information concerning the details of this report and related industry are from sources Cogent Valuation believes to be reliable. Cogent Valuation has accurately reflected such information in this research report; however, Cogent Valuation makes no representation as to the sources' accuracy or completeness and has accepted this information without further verification. Neither all nor any part of the content of this report may be conveyed to the public through advertising, public relations, news, sales, mail, direct transmittal, or other media without the prior written consent of Cogent Valuation. Cogent Valuation's research is as of the date reported herein. Cogent Valuation has no affiliation with any of the companies comprising the industry used as a basis for research in this report, nor does Cogent Valuation hold any investments in the companies listed herein. The content of this report may be used, in part, as a basis for any work that Cogent Valuation performs for you in the future at the sole discretion of Cogent Valuation. THIS REPORT IS NOT TO BE USED OR CONSIDERED UNDER ANY CIRCUMSTANCE BY ANYONE AS INVESTMENT ADVICE.