



INDUSTRY UPDATE

AEROSPACE & DEFENSE
Q3 2019

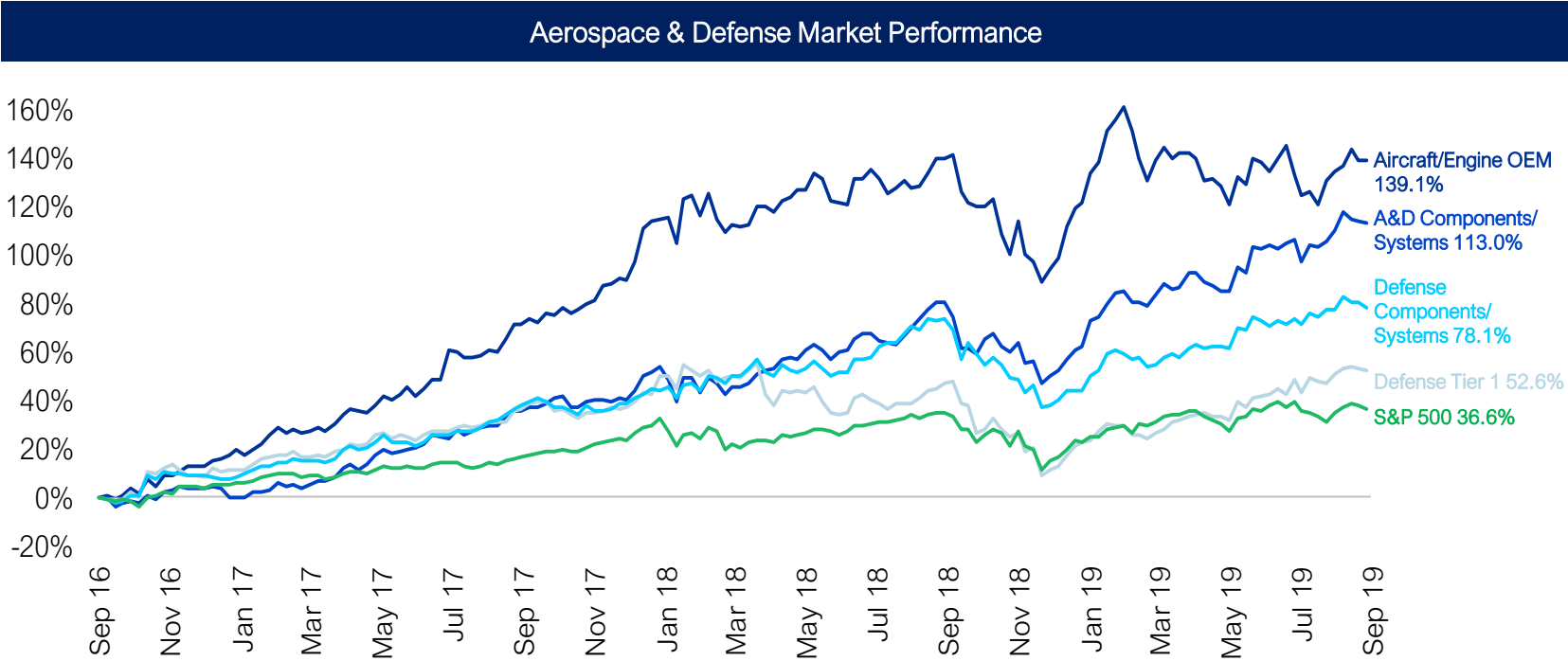


GREENWICH
CAPITAL GROUP

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Public Market Performance

In Q3 2019, the Aerospace & Defense (“A&D”) industry maintained strong overall performance, outpacing the broader U.S. equity market for the third straight quarter. On a 3-year period ending September 30, the S&P 500 returned 36.6%, underperforming overall gains by various segments of the A&D industry.



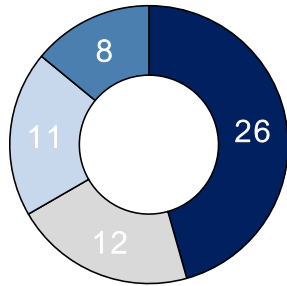
Source: S&P Capital IQ
Note: All values based on publicly available data as of 9/30/2019



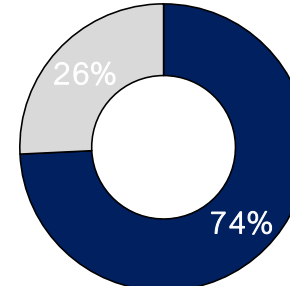
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M&A Activity

Q3 2019
Transaction Volume:
57



- Aerospace
- Defense IT/Services
- Defense
- Space



- Strategic Buyer
- Financial Buyer

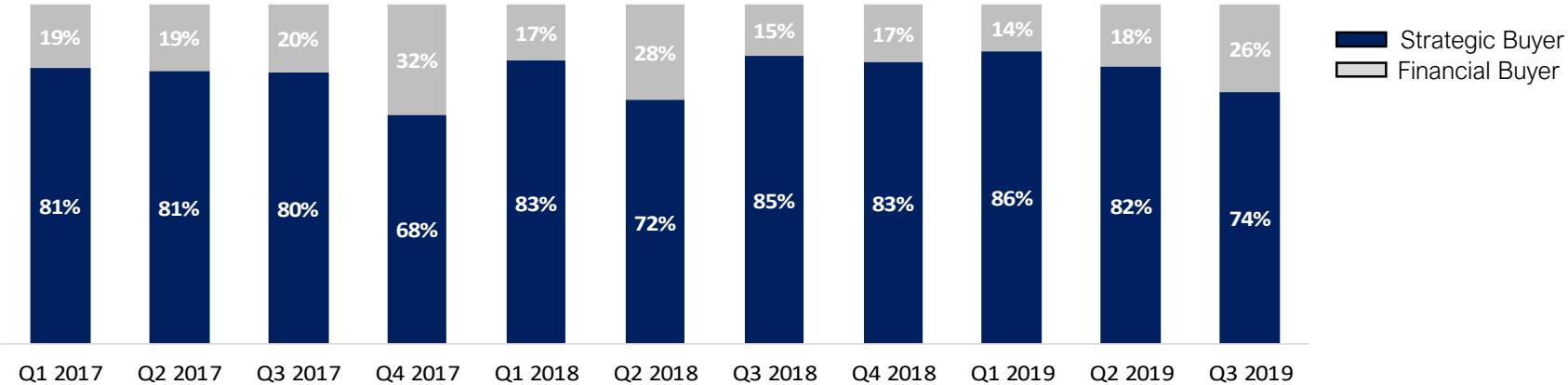
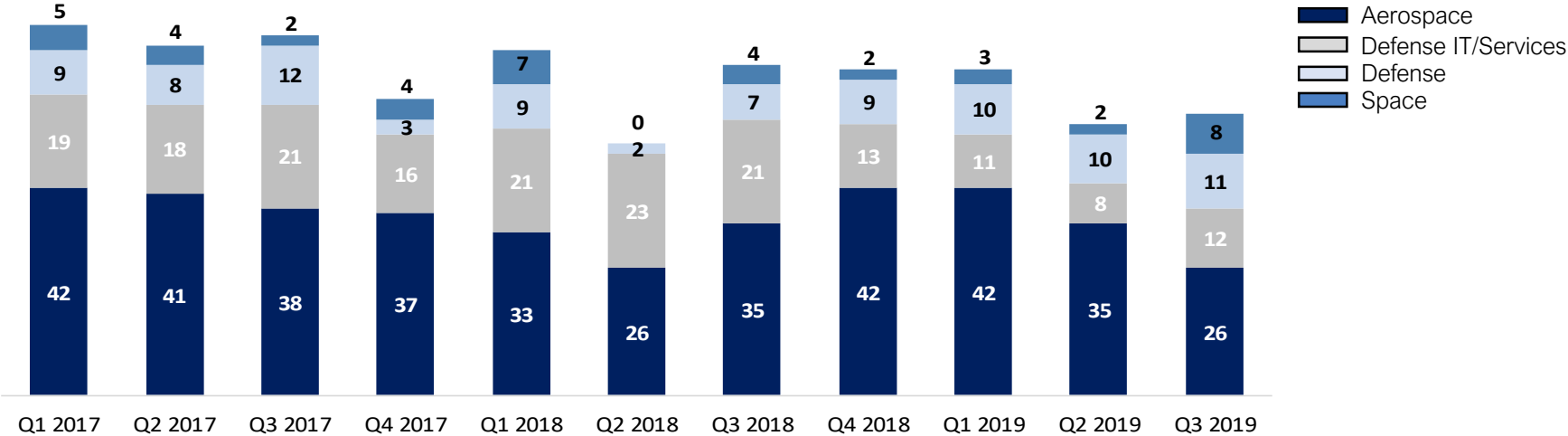
Select Transactions:

Announced	Target / Seller	Buyer	Transaction Value (\$mm)	Target Description
09/26/2019	Cole Engineering Services, Inc.	By Light Professional IT Services, Inc. (Sagewind Capital)	-	Cole Engineering Services develops unique simulation-based systems for simple and complex military missions.
09/24/2019	Kord Technologies, Inc.	Centauri	-	Kord is an industry leader in High Energy Laser weapon systems engineering and integration.
09/23/2019	Arotech Corporation (NasdaqGM:ARTX)	Greenbriar Equity Group, L.P.	\$106	Arotech is a defense and security company engaged in interactive simulation and mobile power systems (21.3x EBITDA).
09/10/2019	Space Electronics LLC	L Squared Capital Partners (Raptor Scientific)	-	Space Electronics provides precision measurement solutions used in mission-critical applications across the Aerospace & Defense sector.
09/09/2019	McNally Industries, LLC (Gardner Standard)	Susquehanna Private Capital, LLC	-	McNally provides hydro-mechanical and electro-mechanical systems as well as machined components for critical defense and aerospace applications.
09/04/2019	Pacific Design Technologies, Inc.	AMETEK, Inc. (NYSE:AME)	\$125	Pacific Design complements AMETEK's expertise in thermal management systems and enhances its position in the aerospace and defense sectors.
08/09/2019	Wesco Aircraft Holdings, Inc. (NYSE:WAIR)	Pattonair Limited (Platinum Equity)	\$1,949	Wesco is one of the world's leading distributors and providers of supply chain management services to the global aerospace industry.
08/06/2019	PIXIA Corp.	Cubic Corporation (NYSE:CUB)	\$50	PIXIA enables Cubic's battlefield cloud strategy of processing and disseminating data (20% stake with option for remainder in Q1 2020).
07/30/2019	Ontic Engineering and Manufacturing, Inc. (BBA Aviation)	CVC Capital Partners Limited	\$1,365	Ontic is a leading provider of OEM-licensed parts for legacy aerospace platforms (11.4x EBITDA).
07/29/2019	Exotic Metals Forming Company LLC	Parker-Hannifin Corporation (NYSE:PH)	\$1,725	Exotic is a manufacturer of high-temperature, high-pressure air and exhaust management solutions for aircraft and engines.
07/25/2019	Cobham plc (LSE:COB)	Advent International Corporation	\$5,603	Cobham is a provider of defense electronics, satellite communications, air-to-air refueling, aviation services and life support mission equipment
07/18/2019	Columbia Helicopters, LLC	AE Industrial Partners, LP	-	Columbia Helicopters is a global leader in heavy-lift helicopter operations and trusted expert in maintenance, repair, and overhaul services.
07/11/2019	Black Sage Technologies Inc.	Acorn Growth Companies, LLC	-	Black Sage is a technology integrator specialized in autonomous airspace protection solutions to take down small remote piloted aircraft systems.
07/08/2019	Matrix Composites Inc.	ITT Inc. (NYSE:ITT)	\$29	Matrix is a specialty aerospace component manufacturer specializing in precision composite components for aircraft and aircraft engine platforms.
07/08/2019	Valence Surface Technologies, LLC	British Columbia Investment Management Corporation; ATL Partners	-	Valence is the largest independent aerospace surface finishing platform in North America providing critical surface treatments to A&D components.

Source: Capital IQ and GCG research

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M&A Trends

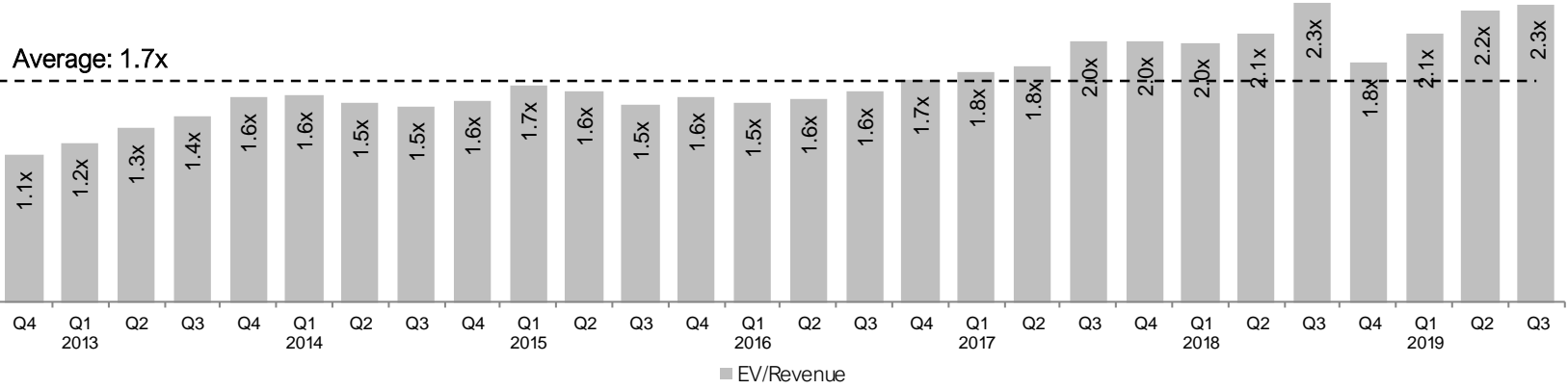
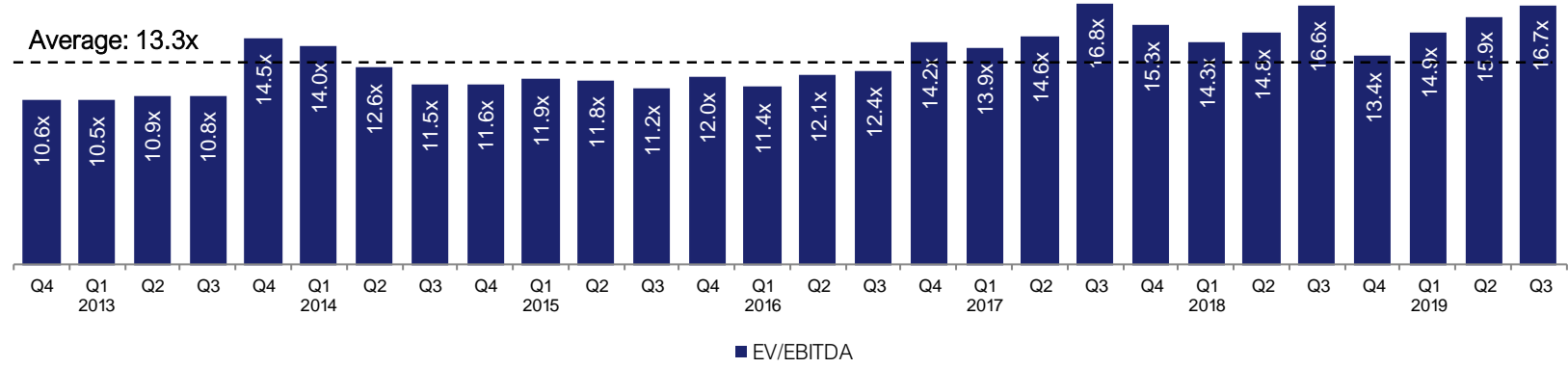


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Public Company Trading Multiples



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Public Comparable Companies

Company Name	Enterprise	Revenue	Price Change		LTM Margins		TEV / LTM:	
	Value (\$mils)	(\$mils)	3 month	12 month	Gross	EBITDA	Revenue	EBITDA
Aircraft/Engine OEM								
The Boeing Company	\$225,200	\$86,989	4.5%	2.3%	13.2%	7.5%	2.6x	34.3x
Airbus SE	\$104,656	\$79,202	(8.4%)	3.4%	14.8%	9.8%	1.3x	13.5x
Rolls-Royce Holdings plc	\$21,671	\$20,491	(8.7%)	(24.3%)	12.5%	3.8%	1.1x	27.8x
MTU Aero Engines AG	\$14,864	\$5,073	11.5%	17.9%	20.6%	17.5%	2.9x	16.8x
Textron Inc.	\$14,862	\$13,345	(7.7%)	(31.5%)	16.8%	12.3%	1.1x	9.0x
Bombardier Inc.	\$12,297	\$15,776	(19.6%)	(62.0%)	13.9%	6.4%	0.8x	12.1x
Dassault Aviation SA	\$6,782	\$7,389	(1.6%)	(23.6%)	35.6%	10.3%	0.9x	8.9x
Embraer S.A.	\$2,260	\$5,206	(15.3%)	(13.3%)	16.9%	5.6%	0.4x	7.7x
Mean	\$39,754	\$29,184	(5.7%)	(16.4%)	18.0%	9.2%	1.4x	14.6x
Median	\$14,863	\$14,561	(8.0%)	(18.4%)	15.8%	8.7%	1.1x	12.1x

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Public Comparable Companies (Cont'd)

Company Name	Enterprise	Revenue	Price Change		LTM Margins		TEV / LTM:	
	Value (\$mils)	(\$mils)	3 month	12 month	Gross	EBITDA	Revenue	EBITDA
A&D Components/Systems								
Safran SA	\$72,959	\$27,434	7.4%	12.3%	45.3%	18.8%	2.7x	14.2x
TransDigm Group Incorporated	\$42,134	\$4,897	7.6%	39.9%	55.4%	44.4%	8.6x	19.4x
HEICO Corporation	\$15,324	\$1,991	(6.7%)	(6.7%)	39.7%	26.5%	7.7x	29.0x
Spirit AeroSystems Holdings, Inc.	\$9,407	\$7,633	1.1%	(10.3%)	15.4%	15.7%	1.2x	7.9x
Hexcel Corporation	\$8,126	\$2,352	1.5%	22.5%	27.4%	24.0%	3.5x	14.4x
Woodward, Inc.	\$7,801	\$2,883	(4.7%)	33.4%	25.4%	18.2%	2.7x	14.9x
Meggitt PLC	\$7,407	\$2,795	17.3%	5.7%	35.8%	16.1%	2.7x	16.4x
Triumph Group, Inc.	\$2,636	\$3,262	(0.1%)	(1.8%)	15.3%	6.6%	0.8x	12.2x
AAR Corp.	\$1,668	\$2,127	12.0%	(13.9%)	16.0%	7.4%	0.8x	10.7x
Senior plc	\$1,289	\$1,448	(15.9%)	(43.3%)	20.0%	11.8%	0.9x	7.6x
Astronics Corporation	\$1,093	\$813	(27.0%)	(22.3%)	22.3%	12.1%	1.3x	11.1x
Ducommun Incorporated	\$734	\$677	(5.9%)	3.8%	20.3%	11.2%	1.1x	9.7x
Magellan Aerospace Corporation	\$695	\$776	(9.7%)	(19.9%)	16.7%	15.2%	0.9x	5.9x
Héroux-Devtek Inc.	\$675	\$414	(11.3%)	8.5%	17.4%	14.7%	1.6x	11.1x
Latécoère S.A.	\$535	\$811	28.2%	(10.1%)	35.1%	6.7%	0.7x	9.8x
Mean	\$11,499	\$4,021	(0.4%)	(0.2%)	27.2%	16.6%	2.5x	12.9x
Median	\$2,636	\$2,127	(0.1%)	(1.8%)	22.3%	15.2%	1.3x	11.1x

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Public Comparable Companies (Cont'd)

Company Name	Enterprise	Revenue	Price Change		LTM Margins		TEV / LTM:	
	Value (\$mils)	(\$mils)	3 month	12 month	Gross	EBITDA	Revenue	EBITDA
Defense Tier 1								
Lockheed Martin Corporation	\$123,668	\$58,345	7.3%	12.7%	14.0%	15.9%	2.1x	13.3x
Northrop Grumman Corporation	\$78,334	\$33,276	16.0%	18.1%	20.6%	15.1%	2.4x	15.6x
General Dynamics Corporation	\$67,536	\$38,955	0.5%	(10.7%)	17.7%	14.0%	1.7x	12.4x
Raytheon Company	\$58,892	\$28,694	12.8%	(5.1%)	26.9%	15.7%	2.1x	13.0x
BAE Systems plc	\$26,702	\$22,027	11.4%	(14.7%)	63.3%	11.7%	1.2x	10.4x
Leonardo S.p.a.	\$11,451	\$14,353	(7.2%)	(2.4%)	38.7%	11.5%	0.8x	6.9x
Huntington Ingalls Industries, Inc.	\$10,638	\$8,550	(5.8%)	(17.3%)	19.2%	12.5%	1.2x	10.0x
Saab AB (publ)	\$4,241	\$3,651	(11.6%)	(42.8%)	23.0%	10.8%	1.2x	10.7x
Mean	\$47,683	\$25,981	2.9%	(7.8%)	27.9%	13.4%	1.6x	11.6x
Median	\$42,797	\$25,361	3.9%	(7.9%)	21.8%	13.2%	1.5x	11.6x

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Public Comparable Companies (Cont'd)

Company Name	Enterprise	Revenue	Price Change		LTM Margins		TEV / LTM:	
	Value (\$mils)	(\$mils)	3 month	12 month	Gross	EBITDA	Revenue	EBITDA
Defense Components/Systems								
L3Harris Technologies, Inc.	\$49,270	\$6,801	10.3%	23.3%	34.3%	23.5%	7.2x	30.8x
Thales S.A.	\$29,606	\$18,881	(7.0%)	(19.1%)	25.7%	11.2%	1.6x	14.0x
Elbit Systems Ltd.	\$7,978	\$4,059	9.9%	30.4%	27.7%	11.3%	2.0x	17.4x
FLIR Systems, Inc.	\$7,667	\$1,810	(2.8%)	(14.4%)	50.9%	22.8%	4.2x	18.5x
Mercury Systems, Inc.	\$4,244	\$655	15.4%	46.7%	43.8%	19.2%	6.5x	33.8x
Aerojet Rocketdyne Holdings, Inc.	\$3,867	\$1,913	12.8%	48.6%	20.0%	14.9%	2.0x	13.6x
Cubic Corporation	\$2,646	\$1,405	9.2%	(3.6%)	29.4%	7.3%	1.9x	25.9x
Kratos Defense & Security Solutions, Inc.	\$2,196	\$672	(18.8%)	25.8%	27.2%	9.0%	3.3x	36.3x
Ultra Electronics Holdings plc	\$2,014	\$1,021	18.6%	20.0%	28.7%	15.2%	2.0x	12.9x
AeroVironment, Inc.	\$982	\$323	(5.7%)	(52.3%)	42.4%	15.8%	3.0x	19.3x
Chemring Group PLC	\$781	\$395	3.2%	(13.7%)	72.5%	3.9%	2.0x	51.3x
Arotech Corporation	\$100	\$92	47.7%	(13.5%)	31.0%	5.3%	1.1x	20.7x
Espey Mfg. & Electronics Corp.	\$50	\$36	(4.2%)	(20.6%)	19.4%	8.8%	1.4x	15.6x
Mean	\$8,569	\$2,928	6.8%	4.4%	34.8%	12.9%	2.9x	23.8x
Median	\$1,862	\$1,021	9.2%	(3.6%)	29.4%	11.3%	2.0x	19.3x
Aerospace & Defense Mean	\$24,271	\$12,266	1.4%	(3.1%)	27.9%	13.6%	2.3x	16.3x
Aerospace & Defense Median	\$6,782	\$3,456	0.2%	(5.9%)	24.2%	12.2%	1.7x	13.5x

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GCG INDUSTRY UPDATE | Aerospace & Defense

Aerospace & Defense Expertise

GCG's Aerospace & Defense ("A&D") team has an extensive industry background formed by working with dozens of clients across nearly all aspects of the commercial aerospace, regional jet, business jet, helicopter, military aircraft, and defense supply chain continuum. With experience serving private and publicly traded A&D companies in the U.S. and abroad, GCG has a deep understanding of the trends and dynamics affecting this increasingly global industry.

More about Greenwich Capital Group

Greenwich Capital Group ("GCG") is a middle market focused advisory firm offering a range of investment banking and consulting services to private companies, public companies and private equity investors. For additional perspective or to discuss M&A related opportunities in the aerospace & defense sector, please reach out to GCG's A&D practice leader, Peter Frankfort. For more information, please visit www.greenwichgp.com.



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Data Sources: We have based our findings on data provided by industry recognized sources. Data and information for this publication was collated from the S&P Capital IQ database. For more information on this or anything else related to our research, please email info@greenwichgp.com.

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