



INDUSTRY UPDATE

AEROSPACE & DEFENSE
Q2 2019



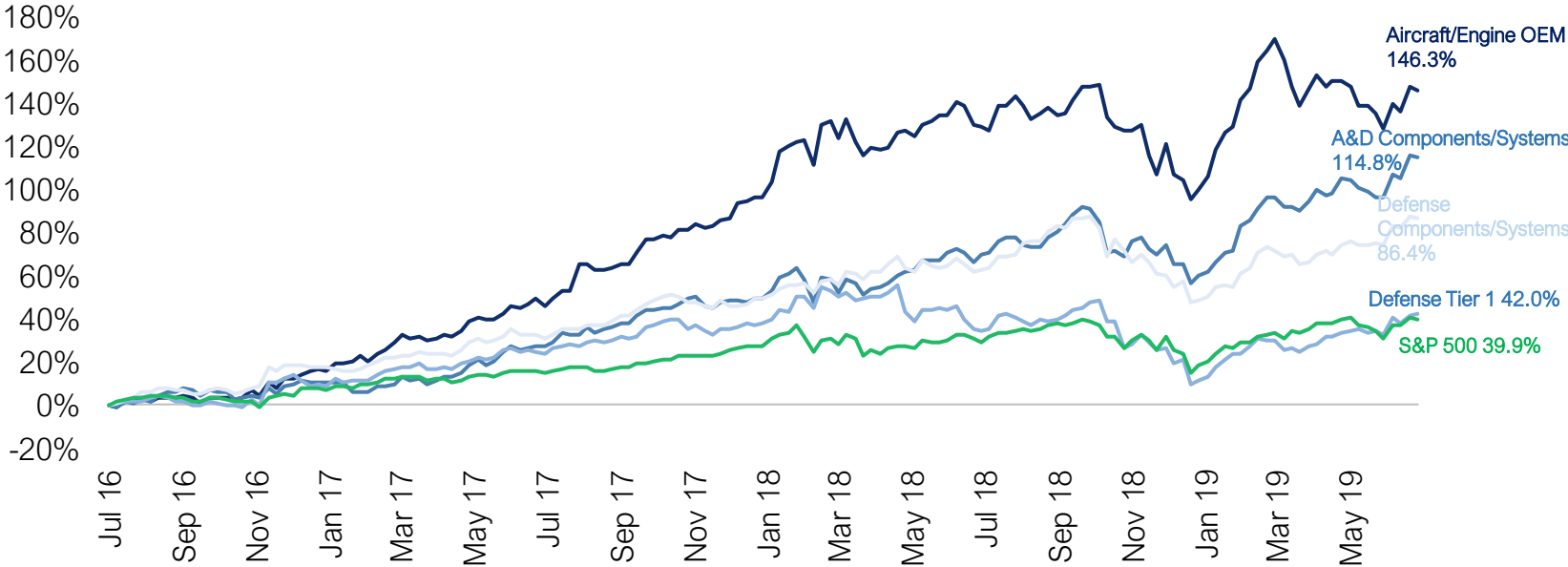
GREENWICH
CAPITAL GROUP

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Public Market Performance

In Q2 2019, the Aerospace & Defense (“A&D”) industry maintained strong overall performance, outpacing the broader U.S. equity market for the second straight quarter. On a 3-year period ending June 30, the S&P 500 returned 39.9%, underperforming overall gains by various segments of the A&D industry. Headlines regarding Boeing’s 737 MAX aircraft continued during the quarter, weighing on Boeing’s share price, however strong momentum in commercial air travel continues. Within defense, the FY2020 federal budget proposal reflects the Trump administration’s plan to increase Pentagon spending.

Aerospace & Defense Market Performance



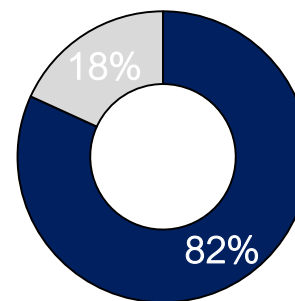
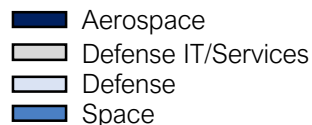
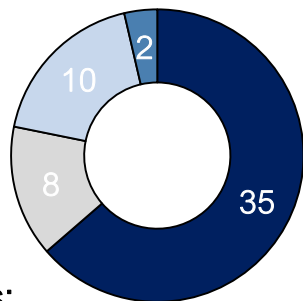
Source: S&P Capital IQ
Note: All values based on publicly available data as of 6/30/2019



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M&A Activity

Q2 2019
Transaction Volume:
55



Select Transactions:

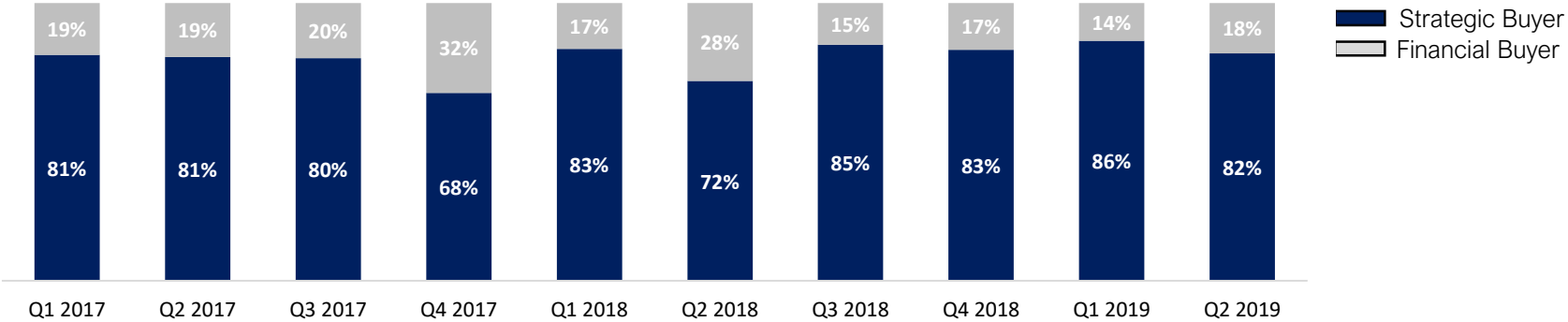
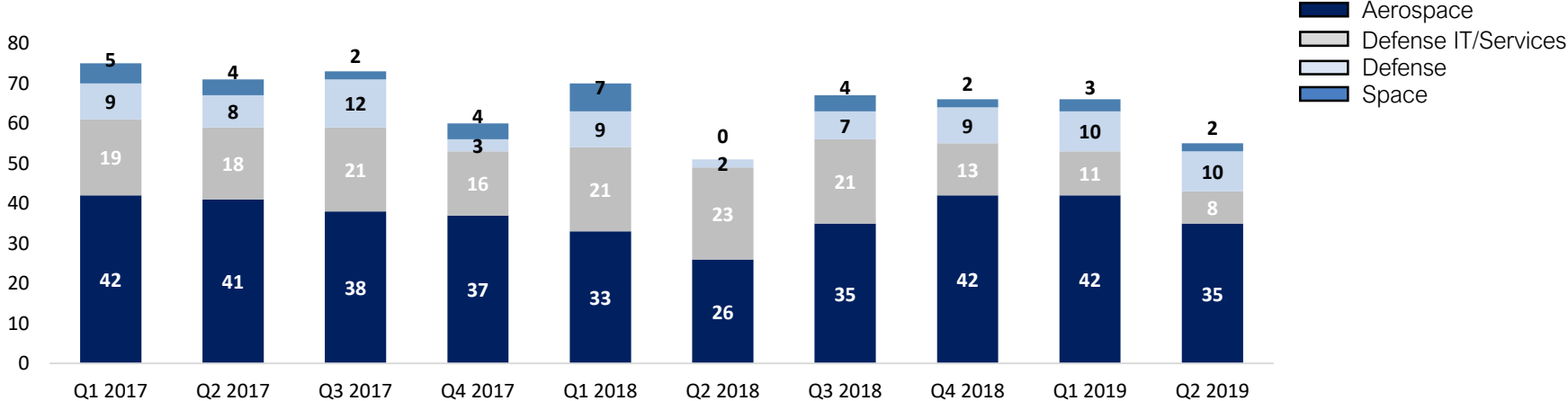
Announced	Target / Seller	Buyer	Transaction Value	Target Description
06/25/2019	Acra Aerospace, LLC	Novaria Holdings LLC (Rosewood Private Investments)	-	Acra focuses on the design, development and manufacture of high-quality complex aerospace components on both civil and military aircraft
06/17/2019	AIM Aerospace, Inc. (Liberty Hall Capital Partners)	Sekisui Chemical Co., Ltd. (TSE:4204)	\$510	AIM is a designer and producer of composite structures, systems, engine components and thermoplastic technology
06/14/2019	Encore Aerospace LLC	The Boeing Company (NYSE:BA)	-	Encore designs, certifies and produces airplane galleys and seats for airlines. Boeing's acquisition of Encore will increase innovation within its cabin vertical
06/11/2019	Pulse Aerospace, Inc.	AeroVironment, Inc. (NasdaqGS:AVAV)	\$26	Pulse is a leading developer and supplier of small Vertical Takeoff and Landing UAS
06/10/2019	EDAC Technologies Corporation (Greenbriar Equity Group)	Hanwha Aerospace Co., Ltd. (KOSE:A012450)	\$295	The aviation unit of Hanwha Aerospace will take over the entire stake of EDAC Technologies from Greenbriar Equity Group
06/10/2019	Systron Donner Inertial, Inc. (Resilience Capital Partners)	EMCORE Corporation (NasdaqGM:EMKR)	\$26	Systron Donner is a leading manufacturer of Quartz MEMS navigation products including inertial sensors and systems
06/09/2019	Raytheon Company (NYSE:RTN)	United Technologies Corporation (NYSE:UTX)	\$92,971	The new entity, Raytheon Technologies Corp., intends to create a premier systems provider uniting complementary product portfolios
06/10/2019	Hydra-Electric Company	Loar Group, Inc.	-	Hydra is a designer and manufacturer of custom engineered, high precision pressure, temperature and flow switches and sensors
05/21/2019	CIRCOR International, Inc. (NYSE:CIR)	Crane Co. (NYSE:CR)	\$1,680	Crane has submitted a proposal to acquire CIRCOR, a manufacturer of complex printed circuit boards, for a 47% premium over trading price
05/09/2019	API Technologies Corp. (JF Lehman & Company)	AEA Investors LP	-	API is a leading provider of high-performance RF and microwave signal conditioning and electromagnetic spectrum management solutions
04/22/2019	The KeyW Holding Corporation	Jacobs Engineering Group Inc. (NYSE:JEC)	\$946	KeyW is a national security provider of advanced engineering and technology solutions for the Intelligence, Cyber, and Counterterrorism communities
04/10/2019	Prikos & Becker, LLC	Consolidated Aerospace Manufacturing, LLC (Tinicum Incorporated)	-	Prikos & Becker is a mission-critical partner and leading supplier of fabricated heat shields for landing gear and brake applications
04/05/2019	Night Vision business of Harris Corporation	Elbit Systems of America, LLC	\$350	The Night Vision business of Harris Corp. Is a producer and supplier of night vision technology to the U.S. and allied military and security forces
04/05/2019	Chemring Military Products, Inc.	Global Ordnance LLC	-	Global Ordnance and Chemring Military have been long-time suppliers of non-standard ammunition and weapons to U.S. and foreign governments.

Source: Capital IQ and GCG research



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M&A Trends

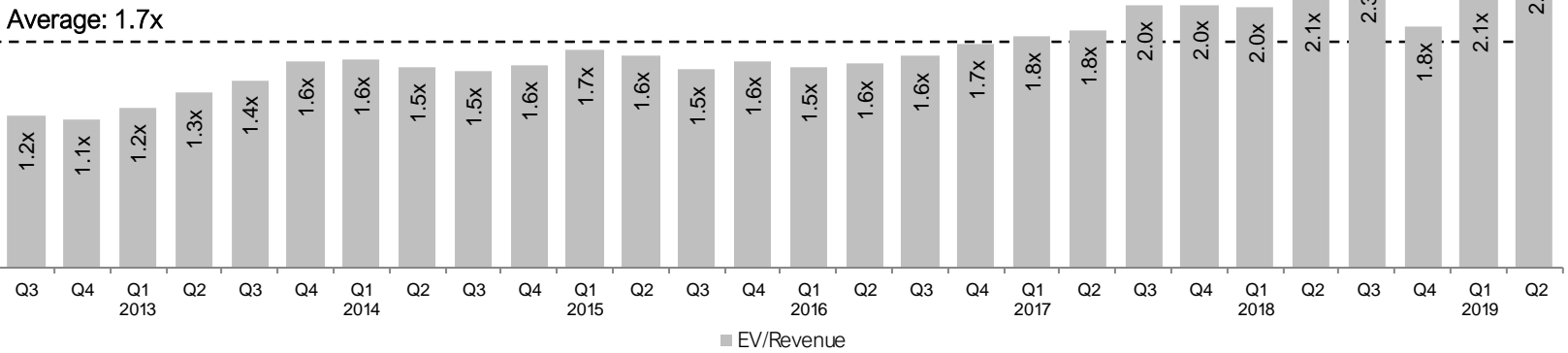
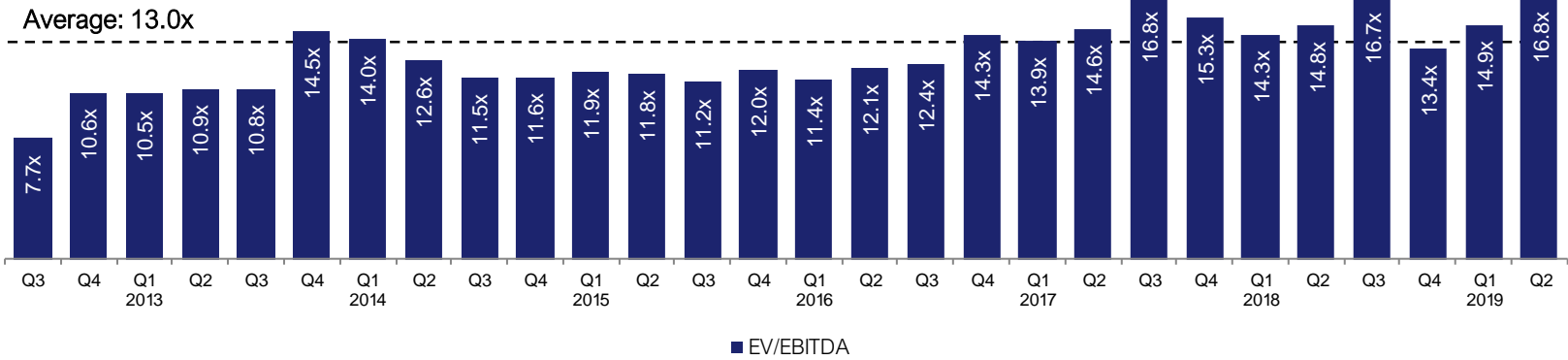


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Public Company Trading Multiples



Source: S&P Capital IQ
 Note: All values based on publicly available data as of 6/30/2019



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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	\$212,989	\$92,155	(4.6%)	8.5%	13.6%	7.9%	2.3x	29.1x
Airbus SE	\$112,158	\$74,228	7.2%	21.3%	14.0%	8.9%	1.5x	17.0x
Rolls-Royce Holdings plc	\$20,100	\$20,047	(9.2%)	(18.1%)	7.6%	(1.2%)	1.0x	NM
Textron Inc.	\$15,890	\$13,286	4.7%	(19.5%)	16.9%	11.9%	1.2x	10.0x
Bombardier Inc.	\$12,872	\$15,724	(12.5%)	(57.5%)	14.3%	6.6%	0.8x	12.5x
MTU Aero Engines AG	\$12,073	\$5,304	5.3%	24.1%	20.0%	16.5%	2.3x	13.8x
Dassault Aviation SA	\$6,033	\$5,861	(2.5%)	(24.5%)	38.8%	10.5%	1.0x	9.8x
Embraer S.A.	\$2,546	\$4,843	7.0%	(19.4%)	15.6%	5.0%	0.5x	10.5x
Mean	\$39,132	\$28,931	(0.6%)	(10.6%)	17.6%	8.3%	1.3x	14.7x
Median	\$14,381	\$14,505	1.1%	(18.8%)	14.9%	8.4%	1.1x	12.5x

Source: S&P Capital IQ

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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	\$67,977	\$24,245	6.9%	20.8%	43.8%	15.6%	2.8x	17.9x
TransDigm Group Incorporated	\$40,635	\$4,219	6.6%	40.2%	57.6%	47.4%	9.6x	20.3x
HEICO Corporation	\$16,232	\$1,925	41.0%	41.0%	39.5%	26.3%	8.4x	32.0x
Spirit AeroSystems Holdings, Inc.	\$9,488	\$7,454	(11.1%)	(5.3%)	15.7%	15.9%	1.3x	8.0x
Woodward, Inc.	\$8,124	\$2,719	19.3%	47.2%	26.0%	18.2%	3.0x	16.4x
Hexcel Corporation	\$8,054	\$2,320	16.9%	21.8%	27.1%	23.6%	3.5x	14.7x
Meggitt PLC	\$6,501	\$2,652	1.7%	2.3%	36.4%	18.8%	2.5x	13.0x
Triumph Group, Inc.	\$2,539	\$3,365	20.1%	16.8%	14.9%	6.0%	0.8x	12.6x
AAR Corp.	\$1,413	\$2,052	13.2%	(20.9%)	16.1%	7.5%	0.7x	9.1x
Astronics Corporation	\$1,441	\$832	22.9%	28.6%	23.3%	13.1%	1.7x	13.2x
Senior plc	\$1,334	\$1,379	(3.5%)	(31.6%)	20.8%	11.5%	1.0x	8.4x
Magellan Aerospace Corporation	\$772	\$742	(6.2%)	2.1%	16.8%	15.3%	1.0x	6.8x
Ducommun Incorporated	\$766	\$651	3.6%	36.2%	20.2%	10.9%	1.2x	10.8x
Héroux-Devtek Inc.	\$706	\$362	23.3%	27.0%	17.2%	14.8%	2.0x	13.2x
Latécoère S.A.	\$368	\$758	(6.6%)	(38.9%)	35.7%	6.4%	0.5x	7.5x
Mean	\$11,090	\$3,712	9.9%	12.5%	27.4%	16.8%	2.7x	13.6x
Median	\$2,539	\$2,052	6.9%	20.8%	23.3%	15.3%	1.7x	13.0x

Source: S&P Capital IQ

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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	\$115,701	\$57,492	21.1%	23.1%	14.0%	15.8%	2.0x	12.8x
Northrop Grumman Corporation	\$70,822	\$32,886	19.8%	5.0%	21.7%	16.1%	2.2x	13.3x
General Dynamics Corporation	\$66,967	\$38,288	7.4%	(2.5%)	17.7%	14.1%	1.7x	12.4x
Raytheon Company	\$52,681	\$28,054	(4.5%)	(10.0%)	27.5%	14.5%	1.9x	12.9x
BAE Systems plc	\$21,512	\$21,439	0.2%	(26.2%)	64.8%	10.7%	1.0x	9.4x
Leonardo S.p.a.	\$12,085	\$14,045	9.1%	28.4%	37.9%	11.5%	0.9x	7.5x
Huntington Ingalls Industries, Inc.	\$10,967	\$8,382	8.5%	3.7%	20.8%	13.9%	1.3x	9.4x
Saab AB (publ)	\$4,609	\$3,703	1.3%	(21.6%)	23.4%	10.3%	1.2x	12.0x
Mean	\$44,418	\$25,536	7.9%	(0.0%)	28.5%	13.4%	1.5x	11.2x
Median	\$37,097	\$24,746	7.9%	0.6%	22.6%	14.0%	1.5x	12.2x

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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.	\$25,539	\$6,611	18.4%	30.8%	36.4%	23.7%	3.9x	16.3x
Thales S.A.	\$22,948	\$18,153	3.2%	(4.0%)	25.8%	11.9%	1.3x	10.7x
FLIR Systems, Inc.	\$7,845	\$1,810	13.7%	4.1%	50.9%	22.9%	4.3x	18.9x
Elbit Systems Ltd.	\$7,618	\$3,887	16.7%	28.3%	27.9%	11.3%	2.0x	17.3x
Mercury Systems, Inc.	\$4,061	\$631	9.8%	84.8%	43.8%	19.9%	6.4x	32.3x
Aerojet Rocketdyne Holdings, Inc.	\$3,463	\$1,896	26.0%	51.8%	19.8%	14.5%	1.8x	12.6x
Kratos Defense & Security Solutions, Inc.	\$2,600	\$635	46.4%	98.9%	27.4%	8.6%	4.1x	47.4x
Cubic Corporation	\$2,434	\$1,319	14.7%	0.4%	29.5%	7.4%	1.8x	25.0x
Ultra Electronics Holdings plc	\$1,680	\$977	0.9%	(3.7%)	29.0%	15.1%	1.7x	11.4x
AeroVironment, Inc.	\$1,023	\$314	(17.0%)	(20.5%)	40.9%	14.6%	3.3x	22.3x
Chemring Group PLC	\$764	\$395	29.8%	(20.1%)	72.5%	3.9%	1.9x	50.1x
Arotech Corporation	\$72	\$90	(32.1%)	(46.9%)	30.3%	5.0%	0.8x	16.0x
Espey Mfg. & Electronics Corp.	\$52	\$33	-	(7.8%)	20.0%	8.0%	1.6x	19.9x
Mean	\$6,161	\$2,827	10.0%	15.1%	34.9%	12.8%	2.7x	23.1x
Median	\$1,745	\$977	13.7%	0.4%	29.5%	11.9%	1.9x	18.9x
Aerospace & Defense Mean	\$22,647	\$12,004	7.7%	6.8%	28.0%	13.4%	2.2x	16.2x
Aerospace & Defense Median	\$5,861	\$3,534	7.0%	3.0%	24.6%	12.5%	1.7x	13.0x

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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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