

# **AEROSPACE & DEFENSE INDUSTRY REPORT**

## **Spring 2015**



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# Key Developments

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## Industry Fundamentals

The Commercial Aerospace sector continues to be in a super-cycle. Boeing and Airbus have delivered record quantities of aircraft and are expected to continue this record pace for the next 3-4 years. The gloom in defense spending is over – the Middle East is in turmoil and both Democratic and Republican politicians for the most part agree American isolationism is not the answer and America needs to re-engage. As a result, President Obama has requested a 13% increase request for the investment account on the FY2016 Defense Budget.

## KEY DEVELOPMENTS

- The International Air Transport Association (IATA) increased its 2015 forecast for global airlines earnings to \$24.8 billion., an approximate 25% increase over 2014. Ongoing improvements in the industry’s cost structure (fuel) coupled with strong growth in passenger traffic is expected to more than offset a soft but improving freight market.
- During 2014, Boeing delivered 723 (+11.6% Y/Y) commercial aircraft and forecasted a record 750-755 deliveries in 2015. Meanwhile, Airbus delivered 629 (+0.5% Y/Y) aircraft in 2014. Airbus has stated its 2015 deliveries will be “slightly higher” than its results for 2014.
- The Business Jet market grew in 2014, the second consecutive year of growth. Aircraft deliveries increased 6.5% in 2014 reaching 722 aircraft. The market is expected to continue this trend and have significant growth in 2015.
- The President’s budget request for FY2016 shows a 13% increase in the Investment Account (Procurement and Research, Development, Test and Evaluation).

# Commercial Aircraft Orders, Deliveries, and Forecast

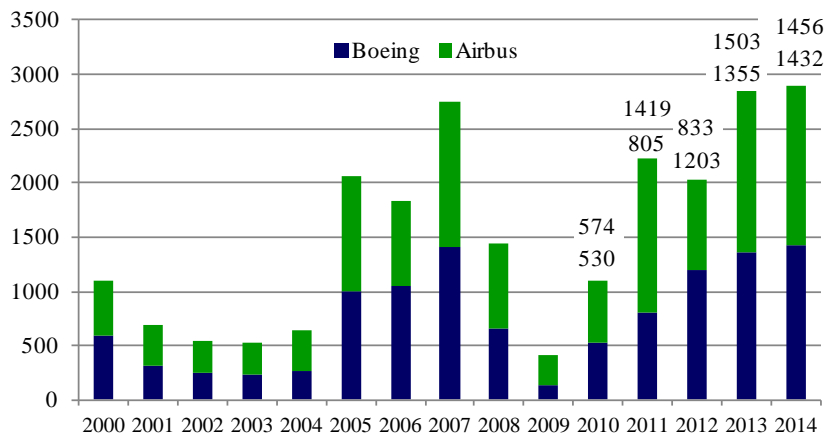
The commercial aircraft market is in a fantastic selling market. Backlogs are 6-7 years for Boeing and Airbus and the book-to-bill ratio for each manufacturer has been above 1.0 for the last 5 years and often times above 2.0. Production increases have been announced and it is up to the supply chain to try and keep up or get left behind (Zodiac seats in France). Get ready for 10 years of super-production, or get left behind. The exhibits below chart net orders and deliveries for the two major manufacturers since 2000. The exhibit to the right forecasts deliveries by aircraft model for the 2015-2017 timeframe and displays current backlog totals as of January 31, 2015.

Commercial Large Air Transport - Forecast 2015-2017

		Backlog	2010	2011	2012	2013	2014A	2015E	2016P	2017P
<b>Boeing</b>	737	4,269	376	372	415	440	485	504	504	535
	747	35	0	9	31	24	19	18	15	15
	767	45	12	20	26	21	6	16	16	16
	777	559	74	73	83	98	99	100	100	90
	787	836	0	3	46	65	114	120	138	144
<b>Total</b>	<b>5,744</b>	<b>462</b>	<b>477</b>	<b>601</b>	<b>648</b>	<b>723</b>	<b>758</b>	<b>773</b>	<b>800</b>	
Y/Y change (%)		-4.0%	3.2%	26.0%	7.8%	11.6%	4.8%	2.0%	3.5%	
Book-to-Bill		1.25x	1.84x	2.23x	2.09x	1.98x				
<b>Airbus</b>	A320	5,099	401	421	455	493	490	494	522	529
	A330/A340	313	91	87	103	108	108	100	72	66
	A350	779	0	0	0	0	1	18	60	94
	A380	164	18	26	30	25	30	30	30	30
	<b>Total</b>	<b>6,355</b>	<b>510</b>	<b>534</b>	<b>588</b>	<b>626</b>	<b>629</b>	<b>642</b>	<b>684</b>	<b>719</b>
Y/Y change (%)		2.4%	4.7%	10.1%	6.5%	0.5%	2.1%	6.5%	5.1%	
Book-to-Bill		1.33x	3.27x	1.67x	2.40x	2.31x				

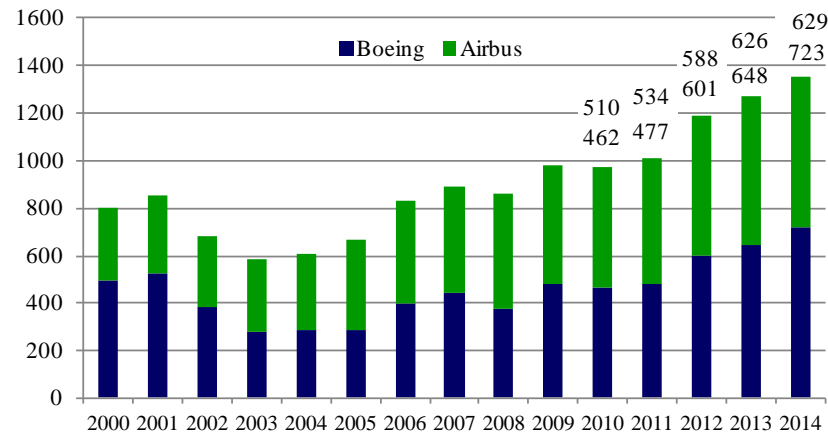
Sources: Boeing, Airbus and Sheridan estimates

Boeing and Airbus Net Orders



Sources: Boeing and Airbus

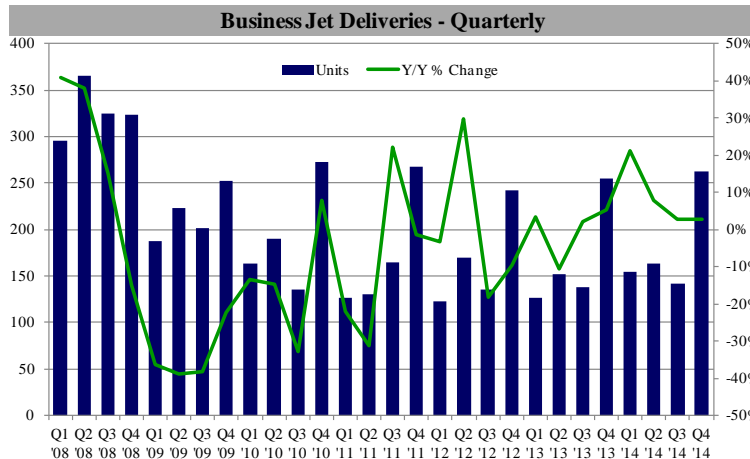
Boeing and Airbus Deliveries



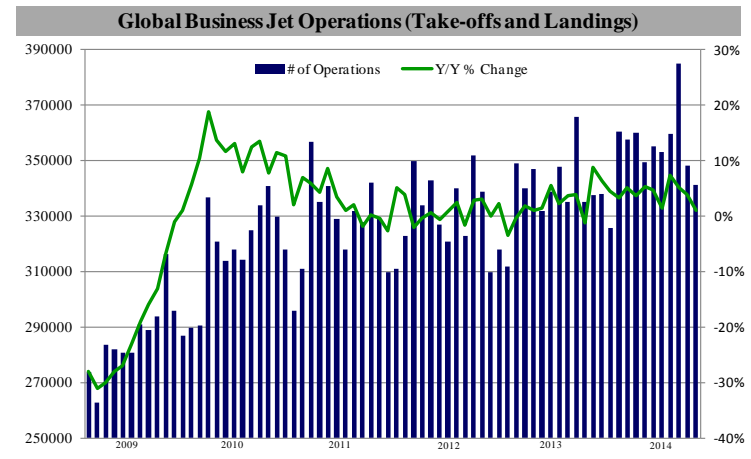
Sources: Boeing and Airbus

# Business Jet Deliveries, Operations, and Market Update

For the second time since 2008, global deliveries of business jets increased rising to 722 units in 2014 from 678 units in 2013, a 6.5% increase. Following a 0.7% increase during 2012 and a 2.3% increase in 2013, business jet flight operations continued improvement throughout 2014, increasing 4.3%. Analysts are forecasting significant growth in business jet deliveries in 2015, approaching 800 aircraft.



Source: GAMA

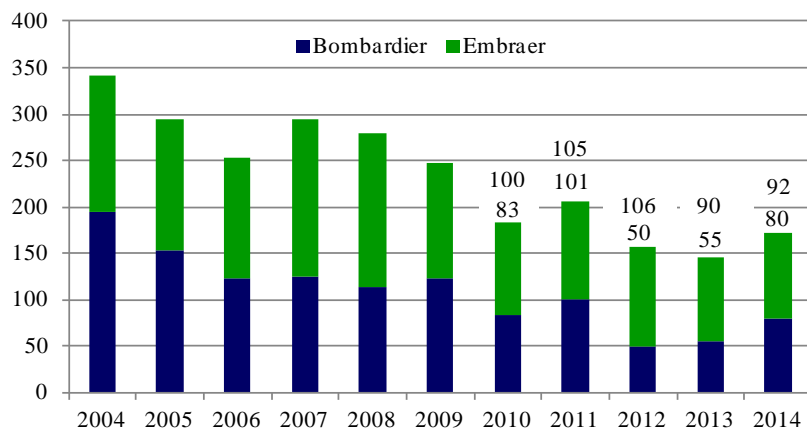


Source: FAA

# Regional Jets / Turboprops Deliveries and Forecast

Bombardier continues to struggle with its CSeries aircraft while Embraer continues its success with its newly designed E-Jets. The exhibits below detail recent deliveries and forecasted deliveries.

**Bombardier and Embraer Deliveries**



Source: SpeedNews

Note: Bombardier totals include Q-Series Turboprops

**Regional Aircraft - Forecast 2015-2017**

		Backlog	2010	2011	2012	2013	2014A	2015P	2016P	2017P
<b>Embraer</b>	ERJ 170	5	11	1	1	4	1	3	2	-
	ERJ 175	272	8	10	20	24	62	33	34	40
	ERJ 190	125	58	68	62	45	19	42	40	40
	ERJ 195	57	17	24	23	17	10	15	14	14
	<b>Total</b>	<b>459</b>	<b>94</b>	<b>103</b>	<b>106</b>	<b>90</b>	<b>92</b>	<b>93</b>	<b>90</b>	<b>94</b>
	Y/Y change (%)	-24.8%	9.6%	2.9%	-15.1%	2.2%	1.1%	-3.2%	4.4%	
	Book-to-Bill	.40x	1.29x	.40x	4.06x	1.62x				
<b>Bombardier</b>	CRJ 700/900/1000	87	34	46	14	25	46	47	45	45
	CSERIES	243	-	-	-	-	-	2	15	30
	Q400	43	49	55	36	29	34	28	28	24
	<b>Total</b>	<b>373</b>	<b>83</b>	<b>101</b>	<b>50</b>	<b>54</b>	<b>80</b>	<b>77</b>	<b>88</b>	<b>99</b>
		Y/Y change (%)	-21.7%	21.7%	-50.5%	8.0%	48.1%	-3.8%	14.3%	12.5%
	Book-to-Bill	.93x	.60x	2.76x	1.50x	2.19x				

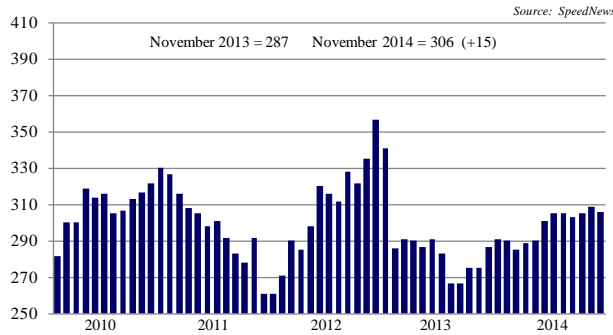
Sources: Embraer and Bombardier

Note 1: Bombardier 2014 deliveries is an estimate based on Bombardier guidance

Note 2: ERJ backlog totals include the new E2 jets

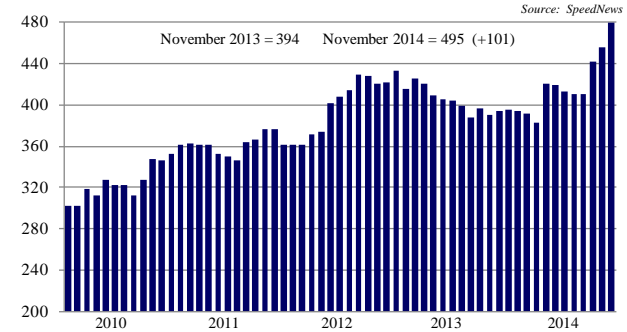
# Aircraft in Storage

### Turboprops in Storage



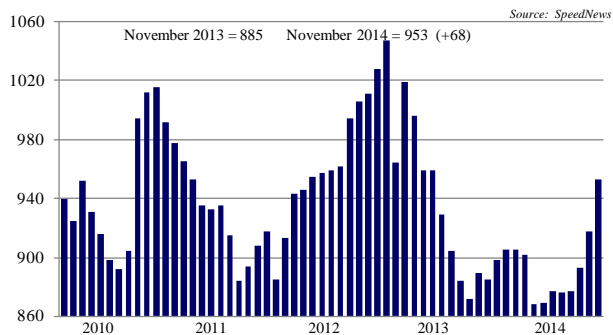
**Turboprops in storage saw a slight uptick of 15 units to 306 during November.** The current inventory remains well below where it was in 2012.

### Regional Jets in Storage



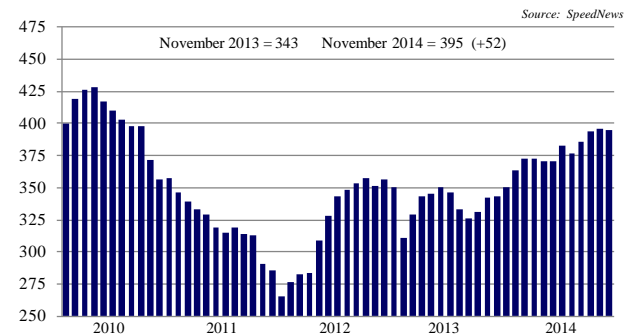
**Regional jets in storage experienced a large increase in 2014.** This is primarily due to a 118% increase in CRJ-200s in storage and a 67% increase in ERJ140/145s in storage.

### Narrowbody Aircraft in Storage



**Narrowbody aircraft in storage continued an uptick in 2014.** Total narrowbody units in storage were up 8% from a year ago, largely driven by an almost 50% increase in Boeing 757s in storage and a 30% increase in A320-200s in storage.

### Widebody Aircraft in Storage



**The number of widebody aircraft in storage increased 15% from a year ago.** This was largely driven by a 43% increase in A340s in storage and a 27% increase in Boeing 767s in storage.

# U.S. Department of Defense

## Overview

### President's Budget

#### Lockheed Martin

57 F-35s, up from 38 aircraft  
 Long Range Strike Bomber development  
 3 Littoral Combat Ships

#### Boeing

16 P-8s, up from 9 aircraft  
 12 KC-46 tankers, up from 7 aircraft  
 Long Range Strike Bomber development

#### Northrop Grumman

5 E-2Ds  
 Long Range Strike Bomber development

#### General Dynamics

Ohio replacement strategic submarine development  
 2 Virginia class submarines  
 2 DDG-51 destroyers  
 3 Littoral Combat Ships

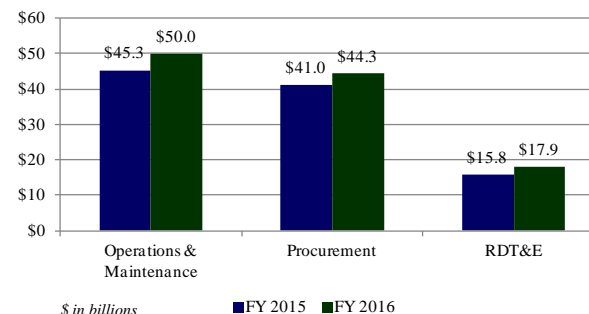
#### General Atomics

29 MQ-9 Reapers, up from 24 aircraft

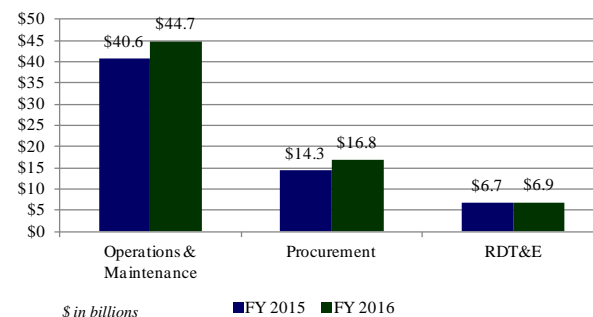
### FY16 Aircraft Procurement Request vs FY15 Enacted

	FY2015 Enacted		FY2016 Request		FY2016 Growth	
	Units	US\$ millions	Units	US\$ millions	Units	US\$ millions
P-8A Poseidon	9	2,400	16	3,400	78%	42%
AH-64 Apache	29	800	64	1,400	121%	75%
UH-60 Blackhawk	86	1,500	94	1,600	9%	7%
CH-47 Chinook	32	1,100	39	1,200	22%	9%
C-130J	13	1,500	29	2,600	123%	73%
F-35	38	8,600	57	11,000	50%	28%
MQ-Reapers	24	700	29	800	21%	14%
V-22	19	1,600	19	1,600	0%	0%
E-2D	5	1,300	5	1,300	0%	0%
KC-46A Tanker	7	2,400	12	3,000	71%	25%
<b>Total</b>		<b>\$21,900</b>		<b>\$27,900</b>		<b>27%</b>

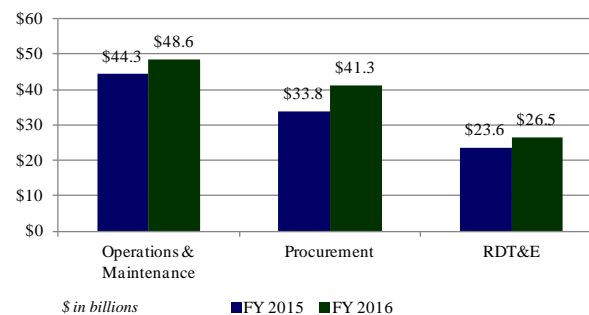
### Navy FY16 Request vs FY15 Enacted



### Army FY16 Request vs FY15 Enacted

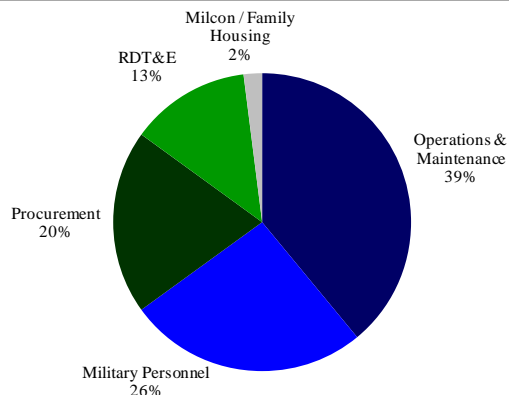


### Air Force FY16 Request vs FY15 Enacted



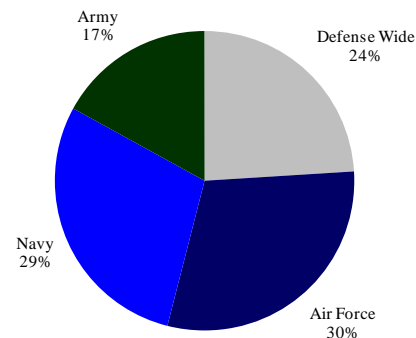
# U.S. Department of Defense

## FY16 Base Budget Request by Account



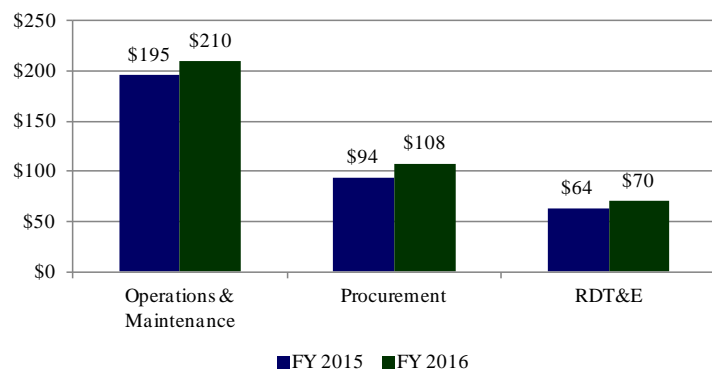
Source: DOD

## FY16 Base Budget Request by Service



Source: DOD

## FY16 Base Budget Request by Account



Source: DOD  
Note: US\$ in billions

## FY16 Base Request for the Investment Accounts

US\$ in billions

	FY 2015	FY 2016	Y/Y Growth
Procurement	93.6	107.7	15.1%
RDT&E	63.5	69.8	9.9%
<b>Total</b>	<b>\$157.1</b>	<b>\$177.5</b>	<b>13.0%</b>

Source: DOD

## FY16 Base plus OCO Total Request Growth by Account

US\$ in billions

	FY 2015	FY 2016	Delta
<b>Total Budget</b>			
Military Personnel	140.0	139.9	-0.1%
Operations & Maintena	246.4	250.0	1.5%
Procurement	101.3	115.0	13.5%
RDT&E	63.8	70.0	9.7%
Milcon / Family Housin	6.8	8.4	23.5%
Other	2.2	1.9	-13.6%
<b>Total</b>	<b>\$560.5</b>	<b>\$585.2</b>	<b>4.4%</b>

Note: OCO stands for Overseas Contingency Operations

Source: DOD



# Commercial Aerospace Valuation Metrics

Commercial Aviation Valuation Metrics																		
OEMs	EV	Revenue			Revenue CAGR 2Yr Fwd	EBITDA			EBITDA Margin			EV/Revenue			EV/EBITDA			
		2014A	2015E	2016E		2014A	2015E	2016E	2014A	2015E	2016E	2014A	2015E	2016E	2014A	2015E	2016E	
Boeing	102,780	90,762	94,522	96,435	1.5%	9,379	10,779	11,096	10.3%	11.4%	11.5%	1.1x	1.1x	1.1x	11.0x	9.5x	9.3x	
Bombardier	7,056	20,582	21,095	22,005	4.3%	1,345	1,519	1,627	6.5%	7.2%	7.4%	0.3x	0.3x	0.3x	5.2x	4.6x	4.3x	
Airbus	48,400	73,402	71,305	74,434	6.9%	7,432	6,875	7,122	10.1%	9.6%	9.6%	0.7x	0.7x	0.7x	6.5x	7.0x	6.8x	
Embraer	6,050	6,288	6,882	7,366	2.9%	830	977	1,082	13.2%	14.2%	14.7%	.96x	.9x	.8x	7.3x	6.2x	5.6x	
Textron	14,990	13,878	14,283	14,753	3.6%	1,447	1,236	1,561	10.4%	8.7%	10.6%	1.1x	1.05x	1.02x	10.4x	12.1x	9.6x	
									<b>Averages</b>	<b>10.1%</b>	<b>10.2%</b>	<b>10.7%</b>	<b>1.1x</b>	<b>1.1x</b>	<b>1.1x</b>	<b>7.4x</b>	<b>8.1x</b>	<b>7.1x</b>
<b>Aeroengine OEMs</b>																		
MTU Aero Engines	5,819	4,731	4,724	5,026	6.4%	581	613	645	12.3%	13.0%	12.8%	1.2x	1.2x	1.2x	10.0x	9.5x	9.0x	
Rolls-Royce	26,120	21,297	21,620	22,461	4.2%	2,744	3,413	3,659	12.9%	15.8%	16.3%	1.2x	1.2x	1.2x	9.5x	7.7x	7.1x	
Safran	31,482	18,570	18,592	19,729	6.1%	3,567	3,273	3,565	19.2%	17.6%	18.1%	1.7x	1.7x	1.6x	8.8x	9.6x	8.8x	
United Technologies	122,270	66,351	67,763	71,075	5.1%	11,676	12,248	12,909	17.6%	18.1%	18.2%	1.8x	1.8x	1.7x	10.5x	10.0x	9.5x	
									<b>Averages</b>	<b>15.5%</b>	<b>16.1%</b>	<b>16.3%</b>	<b>1.5x</b>	<b>1.5x</b>	<b>1.4x</b>	<b>9.6x</b>	<b>8.9x</b>	<b>8.5x</b>
<b>Suppliers</b>																		
AAR Corp	1,790	2,038	2,021	2,094	3.6%	226	226	246	11.1%	11.2%	11.7%	.9x	.9x	.9x	7.9x	7.9x	7.3x	
Barnes Group	2,640	1,260	1,335	1,400	4.5%	267	292	308	21.2%	21.9%	22.0%	2.1x	2.x	1.9x	9.9x	9.0x	8.6x	
BE Aerospace	8,380	2,599	2,853	3,077	8.1%	465	596	682	17.9%	20.9%	22.2%	3.2x	2.9x	2.7x	18.0x	14.1x	12.3x	
Carpenter Technology	2,620	2,173	2,368	2,525	7.9%	463	386	464	21.3%	16.3%	18.4%	1.2x	1.1x	1.x	5.7x	6.8x	5.6x	
Curtiss-Wright	3,970	2,240	2,467	2,510	3.2%	401	442	470	17.9%	17.9%	18.7%	1.8x	1.6x	1.6x	9.9x	9.0x	8.4x	
Esterline	4,100	2,051	1,926	2,309	12.2%	287	373	467	14.0%	19.4%	20.2%	2.x	2.1x	1.8x	14.3x	11.0x	8.8x	
Heico	4,320	1,132	1,238	1,355	9.5%	251	275	304	22.2%	22.2%	22.4%	3.8x	3.5x	3.2x	17.2x	15.7x	14.2x	
Hexcel	4,940	1,856	1,956	2,115	9.1%	384	410	451	20.7%	21.0%	21.3%	2.7x	2.5x	2.3x	12.9x	12.0x	11.0x	
Honeywell	78,790	39,055	41,013	42,549	2.9%	6,401	8,377	8,945	16.4%	20.4%	21.0%	2.x	1.9x	1.9x	12.3x	9.4x	8.8x	
Meggitt	7,823	2,294	2,508	2,625	4.7%	516	698	748	22.5%	27.8%	28.5%	3.4x	3.1x	3.x	15.2x	11.2x	10.5x	
Moog	3,660	2,648	2,689	2,769	3.3%	351	353	341	13.3%	13.1%	12.3%	1.4x	1.4x	1.3x	10.4x	10.4x	10.7x	
Precision Castparts	32,720	9,769	10,208	10,773	6.0%	2,965	3,119	3,338	30.4%	30.6%	31.0%	3.3x	3.2x	3.x	11.0x	10.5x	9.8x	
Rockwell Collins	14,520	5,099	5,475	5,770	6.2%	1,107	1,161	1,248	21.7%	21.2%	21.6%	2.8x	2.7x	2.5x	13.1x	12.5x	11.6x	
Spirit Aerosystems	7,710	6,903	6,997	7,233	2.4%	1,003	974	1,019	14.5%	13.9%	14.1%	1.1x	1.1x	1.1x	7.7x	7.9x	7.6x	
Teledyne	4,060	2,394	2,534	2,569	8.7%	393	407	436	16.4%	16.1%	17.0%	1.7x	1.6x	1.6x	10.3x	10.0x	9.3x	
Transdigm	17,830	2,373	2,574	2,760	7.4%	1,073	1,169	1,262	45.2%	45.4%	45.7%	7.5x	6.9x	6.5x	16.6x	15.3x	14.1x	
Triumph Group	4,340	3,800	3,893	4,065	4.7%	633	674	735	16.7%	17.3%	18.1%	1.1x	1.1x	1.1x	6.9x	6.4x	5.9x	
Wesco	2,490	1,356	1,639	1,716	5.7%	220	243	263	16.2%	14.8%	15.3%	1.8x	1.5x	1.5x	11.3x	10.2x	9.5x	
Woodward	3,810	2,001	2,118	2,349	11.5%	327	376	427	16.3%	17.8%	18.2%	1.9x	1.8x	1.6x	11.7x	10.1x	8.9x	
Zodiac Aerospace	11,353	5,499	5,435	5,844	7.6%	847	875	971	15.4%	16.1%	16.6%	2.1x	2.1x	1.9x	13.4x	13.0x	11.7x	
									<b>Averages</b>	<b>19.6%</b>	<b>20.3%</b>	<b>20.8%</b>	<b>2.4x</b>	<b>2.3x</b>	<b>2.1x</b>	<b>11.5x</b>	<b>10.6x</b>	<b>9.7x</b>

Source: Company filings and Credit Suisse

Note: \$ in millions

# Defense Valuation Metrics

Defense Valuation Metrics																		
Primes	EV	Revenue			Revenue CAGR	EBITDA			EBITDA Margin			EV/Revenue			EV/EBITDA			
		2014A	2015E	2016E	2Yr Fwd	2014A	2015E	2016E	2014A	2015E	2016E	2014A	2015E	2016E	2014A	2015E	2016E	
BAE Systems	26,596	22,836	25,871	26,285	1.4%	2,634	3,214	3,288	11.5%	12.4%	12.5%	1.2x	1.0x	1.0x	10.1x	8.3x	8.1x	
General Dynamics	42,700	30,911	31,332	32,554	4.1%	4,382	4,480	4,753	14.2%	14.3%	14.6%	1.4x	1.4x	1.3x	9.7x	9.5x	9.0x	
L-3 Communications	13,800	12,087	11,879	11,939	0.6%	1,310	1,343	1,392	10.8%	11.3%	11.7%	1.1x	1.2x	1.2x	10.5x	10.3x	9.9x	
Lockheed Martin	66,620	45,600	44,544	45,529	2.0%	6,586	6,476	6,907	14.4%	14.5%	15.2%	1.5x	1.5x	1.5x	10.1x	10.3x	9.6x	
Northrop Grumman	33,330	23,979	23,614	23,644	0.1%	3,658	3,476	3,594	15.3%	14.7%	15.2%	1.4x	1.4x	1.4x	9.1x	9.6x	9.3x	
Raytheon	33,350	22,826	22,461	22,743	1.5%	3,618	3,359	3,707	15.9%	15.0%	16.3%	1.5x	1.48x	1.47x	9.2x	9.9x	9.0x	
									<b>Averages</b>	<b>13.7%</b>	<b>13.7%</b>	<b>14.2%</b>	<b>1.3x</b>	<b>1.4x</b>	<b>1.4x</b>	<b>9.8x</b>	<b>9.6x</b>	<b>9.2x</b>
<b>Mid &amp; Small Cap</b>																		
Chemring	821	760	635	655	5.4%	116	115	123	15.3%	18.1%	18.8%	1.1x	1.3x	1.3x	7.1x	7.1x	6.7x	
Cobham	7,244	2,738	3,236	3,409	5.7%	501	682	703	18.3%	21.1%	20.6%	2.6x	2.2x	2.1x	14.5x	10.6x	10.3x	
Cubic	1,250	1,398	1,450	1,513	4.3%	123	133	147	8.8%	9.2%	9.7%	0.9x	0.9x	0.8x	10.2x	9.4x	8.5x	
Exelis	4,540	3,209	3,247	3,330	1.9%	461	482	513	14.4%	14.8%	15.4%	1.4x	1.4x	1.4x	9.8x	9.4x	8.8x	
Finmeccanica	12,550	NA	16,049	16,167	2.9%	NA	1,943	2,029	NA	12.1%	12.6%	NA	0.8x	0.8x	NA	6.5x	6.2x	
Harris	8,670	5,012	4,862	4,916	1.2%	1,086	1,065	1,076	21.7%	21.9%	21.9%	1.7x	1.8x	1.8x	8.0x	8.1x	8.1x	
Huntington Ingalls	7,440	6,927	7,059	7,128	1.4%	892	921	932	12.9%	13.0%	13.1%	1.1x	1.1x	1.0x	8.3x	8.1x	8.0x	
Orbital ATK	4,410	5,150	5,250	5,300	8.2%	803	808	813	15.6%	15.4%	15.3%	0.9x	0.8x	0.8x	5.5x	5.5x	5.4x	
Thales	10,600	13,748	14,964	15,289	0.9%	1,399	1,718	1,808	10.2%	11.5%	11.8%	0.8x	0.7x	0.7x	7.6x	6.2x	5.9x	
Ultra Electronics	2,041	1,055	1,164	1,213	2.6%	182	208	217	17.2%	17.9%	17.9%	1.9x	1.8x	1.7x	11.2x	10.0x	9.4x	
									<b>Averages</b>	<b>14.9%</b>	<b>15.5%</b>	<b>15.7%</b>	<b>1.6x</b>	<b>1.6x</b>	<b>1.6x</b>	<b>9.3x</b>	<b>7.9x</b>	<b>7.7x</b>

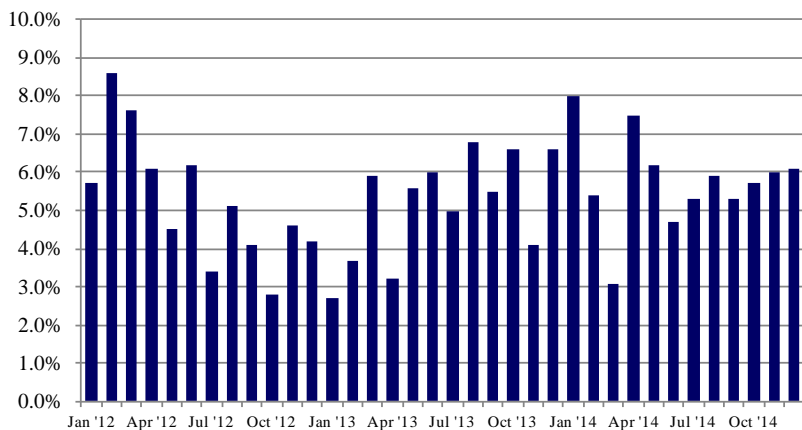
Source: Company filings and Credit Suisse

Note: \$ in millions

# Airline Industry

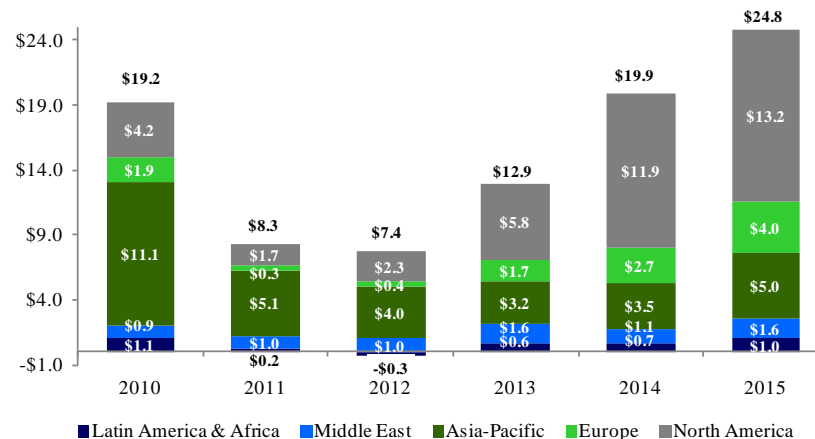
The International Air Transport Association (IATA) announced that the airline industry remains on track to deliver a third consecutive year of improved profitability, estimating a profit of \$24.8 billion for 2015, an approximate 25% increase from 2014. Certainly, lower fuel costs is a primary driver for the improved profitability. Fuel currently accounts for approximately 30% of the average airline cost structure. The IATA expects global passenger RPKs growth of 6.0% in 2015.

Global Passenger Traffic Y/Y Growth (Revenue Passenger Kilometer)



Source: IATA

Airline Industry Profits 2010-2015E (\$ in Billions)

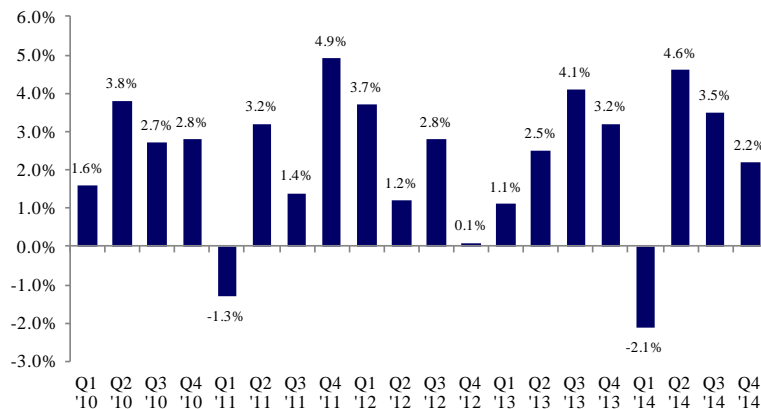


Source: IATA

# Merger and Acquisition Transaction Environment

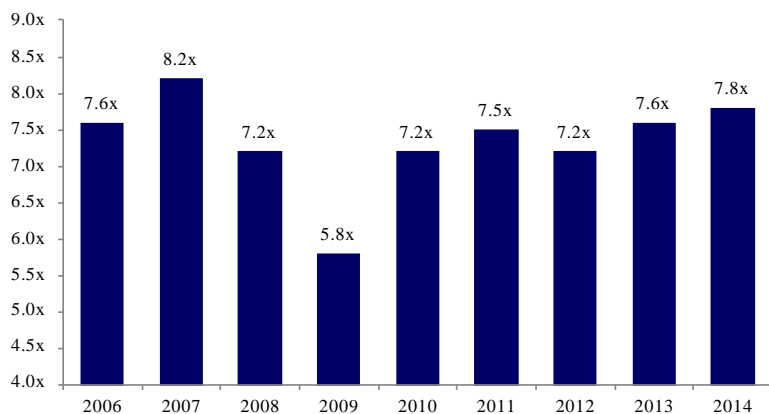
Real gross domestic product remained strong in Q4 '14, increasing at an annual rate of 2.2%. Middle Market enterprise value/EBITDA transaction multiples remained above the 3-year average of 7.4x and finished 2014 at an average of 7.8x. We anticipate multiples to remain healthy in 2015, as high demand for quality assets will continue to drive up valuations. Capital available to make acquisitions continued its recent upward trend as private equity firms raised more cash commitments during the last four quarters than they had during the recessionary period. S&P 500 strategic companies' combined cash balances are at high levels, reaching approximately \$1.5 trillion.

Change in Real Gross Domestic Product Quarter over Quarter



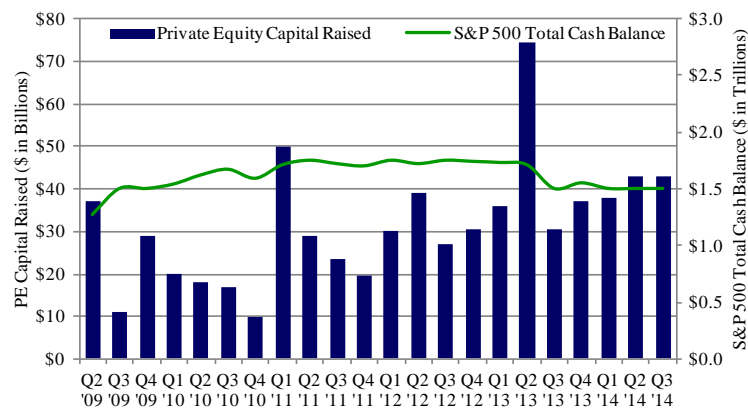
Source: Bureau of Economic Analysis

Middle Market Average EV/EBITDA Transaction Multiples



Source: S&P Capital IQ

Strategic and Financial Capital Availability



Sources: Pitchbook and S&P Capital IQ

# Global Aerospace & Defense Deals - 2014

## Global Aerospace and Defense Deals - 2014

### Aerostructures and Components Sector

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
6/3/2014	Dynamet Technology	Titanium powder metallurgy and titanium components for aerospace and industrial	RTI International	19.2	NA	NA	NA	NA
6/12/2014	Hanard Machine	Precision machining of titanium and other exotic metals for aerospace	Allegheny Technologies	20.5	NA	NA	NA	NA
1/22/2014	Directed Manufacturing	Additive manufacturing of metals and plastics	RTI International	22.4	3.3	NA	6.7	NA
3/6/2014	Elektro-Metall	Provides electromechanical actuators and components	Transdigm	47.4	40.0	NA	1.2	NA
9/4/2014	Enginetics	Aeroengine component manufacturer	Standex International	55.2	30.0	NA	1.8	NA
4/10/2014	SPX Precision Components	Highly engineered aerospace components	RFE Investment Partners	62.0	NA	NA	NA	NA
6/30/2014	GE Aviation Hydraulic Actuation	Landing gear and door actuation systems	Triumph Group	70.0	180.0	NA	0.4	NA
2/7/2014	Dynamic Flowform (85%)	Thin walled components in various alloys for aerospace and oil and gas	Allegheny Technologies	85.8	NA	NA	NA	NA
2/3/2014	APPH	Landing gear and hydraulic systems and assemblies	Heroux Devtek	124.0	76.8	12.5	1.6	9.9
3/10/2014	UPECA Technologies	Contract manufacturer located in Malaysia with one third of revenue derived from aerospace	Senior plc	125.7	52.1	12.3	2.4	10.2
6/5/2014	Manoir Aerospace	Specializes in forgings for the aerospace market	Lisi Group	172.1	224.0	NA	0.8	NA
12/9/2014	Spirit Aerosystems Gulfstream Wing Facility	G650 and G280 wing structures	Triumph Group	160.0	NA	NA	NA	NA
6/30/2014	Fischer Seating	Helicopter seating systems	B/E Aerospace	212.3	NA	NA	NA	NA
6/17/2014	Vaupell	Thermoplastics products with a historical focus on aerospace interiors	Sumitomo Bakelite	265.0	NA	NA	NA	NA
10/17/2014	Allfast Fastening Systems	Rivets, bolts, temporary fasteners and installation tools for aerospace	Trimas	360.0	55.0	28.8	6.5	12.5
4/25/2014	Aerospace Dynamics International	Large complex components, hard metal machining and assemblies for aerospace	Precision Castparts	625.0	208.3	40.3	3.0	15.5
3/14/2014	Beechcraft	General Aviation aircraft	Textron	1,478.0	1,700.0	NA	0.9	NA
11/20/2014	Firth Rixson	Aeroengine component manufacturer	Alcoa	2,850.0	1,600.0	350.0	1.8	8.1
9/4/2014	Advanced Precision Products	Highly engineered components for oil and gas, aerospace and medical markets	Precision Engineered Products	NA	NA	NA	NA	NA
2/20/2014	Arden Precision	Precision machining and milling of aerospace components	Nasmyth Group	NA	NA	NA	NA	NA
1/1/2014	Arnold Engineering	Structural components and assemblies	Noranco	NA	NA	NA	NA	NA
12/23/2014	Cam-Tech Manufacturing	Aerostructures for commercial and military aircraft	SPX Aerostructures	NA	NA	NA	NA	NA
10/20/2014	Crown Precision Machining	Machined rod-ends, caps, pinions and transfer tubes for aerospace	H-D Advanced Manufacturing	NA	NA	NA	NA	NA
9/2/2014	DAE Industries	Manufacturer of engine stands and other ground support equipment	Malabar International	NA	NA	NA	NA	NA
4/9/2014	Excel Manufacturing	Hydraulic actuators and control systems	Sorenson Capital	NA	NA	NA	NA	NA
2/19/2014	Futuristics Components	Precision turned components for the microwave, electronics, defense and aerospace markets	MW Industries	NA	NA	NA	NA	NA
10/15/2014	Impresa Aerospace	Precision sheet metal components and CNC components for aerospace	Twin Haven Capital Partners	NA	NA	NA	NA	NA
4/2/2014	McCann Aerospace	Complex machining for Boeing commercial, Gulfstream and select military programs	Accurus Aerospace	NA	NA	NA	NA	NA
9/30/2014	MW Crow	Forged components for aerospace, defense and industrial markets	Rift Valley Equity Partners	NA	NA	NA	NA	NA
4/1/2014	Norbert Industries	Aeroengine component manufacturer	MB Aerospace (Arlington Capital)	NA	NA	NA	NA	NA
8/4/2014	Onamac Industries	Complex machined components and assemblies out of titanium and other metals	Selmet	NA	NA	NA	NA	NA
6/4/2014	PATS Aircraft Systems	Auxiliary fuel systems, component manufacturing and interiors completion	Moelis Capital Partners	NA	NA	NA	NA	NA
8/11/2014	Pride Plating	Processing and sub-assembly of aerostructures	Valence Surface Technologies	NA	NA	NA	NA	NA
12/4/2014	Process Fab	Aerospace tooling and launch vehicle components	Burtek (Wynnechurch Capital)	NA	NA	NA	NA	NA
5/30/2014	Sanders Industries	Elastomeric tools and components for aerospace	Industrial Growth Partners	NA	NA	NA	NA	NA
3/18/2014	Smith Brothers Machine	Precision components for the aerospace industry	United Tool & Die	NA	NA	NA	NA	NA
7/1/2014	Sungear Inc	High precision gears and assembly for aerospace	H-D Advanced Manufacturing	NA	NA	NA	NA	NA

# Global Aerospace & Defense Deals - 2014

## Global Aerospace and Defense Deals - 2014 Aerostructures and Components Sector (continued)

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
8/20/2014	Technical Metal Finishing	Masking, anodizing, chemical film coatings, passivation and painting	Nasmyth Group	NA	NA	NA	NA	NA
Announced	TITAL	Structural cast titanium aeroengine and aerostructure components	Alcoa	NA	96.0	NA	NA	NA
5/15/2014	Votaw Precision Technologies	Aerospace tooling and large turned components	Burtek (Wynnchurch Capital)	NA	NA	NA	NA	NA
10/15/2014	Weatherford Aerospace	Chemical milling and anodizing of large aerospace structures	Novaria Group / Rosewood Private	NA	NA	NA	NA	NA

## Global Aerospace and Defense Deals - 2014 Defense Sector

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
6/14/2014	Chemring Defence Germany	Military pyrotechnics	Drew Marine	3.8	NA	NA	NA	NA
4/18/2014	Infotron	Mini helicopter like UAVs for defense and civilian applications	ECA Robotics	10.0	NA	NA	NA	NA
3/24/2014	Tri Town Precision Plastics	Polymer frames primarily for Smith & Wesson firearms	Smith & Wesson	22.8	NA	NA	NA	NA
Announced	BAE South Africa Land Systems	Manufacturer of armoured vehicles	Denel	80.1	NA	NA	NA	NA
5/14/2014	Forensic Technology	Firearm ballistics identification and forensic analysis	Ultra Electronics	85.2	NA	NA	NA	NA
5/27/2014	Mecar / Simmel	Military munitions	Nexter Systems	231.8	255.0	NA	0.9	NA
8/26/2014	Aeronautical and GI Holdings	Visual landing systems, sensors and lighting systems for naval and aircraft systems	J.F. Lehman	NA	NA	NA	NA	NA
12/8/2014	Argotec	Sonar transducer products and components for the US Navy	Sparton Corporation	NA	NA	NA	NA	NA
12/1/2014	ArmorWorks	Vehicle and aircraft armor systems and body armor	Littlejohn Capital	NA	NA	NA	NA	NA
6/10/2014	Camel Manufacturing	Soft-side mil-spec shelters	Cold Mountain Capital	NA	NA	NA	NA	NA
5/2/2014	GlobeRanger	RF Identification products	Fujitsu	NA	NA	NA	NA	NA
9/16/2014	HDT Global	Deployable shelters, environmental control and power equipment and NBC systems for defense	Charlesbank Capital	NA	NA	NA	NA	NA
3/31/2014	Nobles Worldwide	Design and manufacture of flexible ammunition chutes	Levine Leichtman	NA	NA	NA	NA	NA
9/30/2014	Reed Composite Solutions	Ballistic-resistant body armor solutions	Hesco Bastion	NA	NA	NA	NA	NA
9/30/2014	Signal Aviation Group	Imaging technologies and analytics to US defense and intelligence communities	BAE Systems	NA	NA	NA	NA	NA
6/4/2014	Weatherhaven Global Resources	Soft-wall and container based shelters for defense, govt and medical applications	Fulcrum Capital Partners	NA	NA	NA	NA	NA

# Global Aerospace & Defense Deals - 2014

## Global Aerospace and Defense Deals - 2014 Electronics, Avionics and Communications Sector

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
6/16/2014	Laboratory Impex Systems	Radiation measurement systems for the nuclear industry	Ultra Electronics	5.1	NA	NA	NA	NA
5/6/2014	ICE Corporation	Motor control electronics, ice protection controller, engine control units	Ultra Electronics	8.6	NA	NA	NA	NA
5/1/2014	Keragis Corp	Wideband amplifier modules for military applications	Hittite Microwave	11.0	NA	NA	NA	NA
12/31/2014	MESL Microwave	High-reliability components and subsystems for radar, communications, defense and aerospace	COM DEV International	20.5	NA	2.4	NA	8.5
10/29/2014	Ener-Tek (Yardney)	Manufacturer of lithium ion and silver-zinc cells for defense and aerospace	OM Group	24.0	24.0	3.0	1.0	8.0
4/1/2014	UEC Electronics	Develops and manufactures electronic components and subsystems for military, aerospace, industrial	Arotech	32.8	NA	NA	NA	NA
Announced	Armstrong Aerospace	Connectivity, in-flight entertainment and electrical power systems	Astronics	51.0	27.0	NA	1.9	NA
12/16/2014	DTECH Labs	Networking products for portable, man-packable, vehicular and airborne applications	Cubic Corporation	114.5	NA	NA	NA	NA
Announced	Barco aerospace displays	High technology, harsh environmental displays and visualization solutions	Esterline	187.0	200.0	NA	0.9	NA
6/30/2014	EMTEQ	Aircraft interior and exterior lighting systems	B/E Aerospace	256.3	NA	NA	NA	NA
5/9/2014	Eaton Aerospace Power Distribution	Circuit protection, power distribution, cockpit panel assemblies and pilot controls	Safan	270.0	102.0	14.0	2.6	19.3
Announced	Viasystems	Multi-layer PCBs and electro-mechanical solution	TTM Technologies	927.0	1,200.0	133.3	0.8	7.0
9/15/2014	Aeroflex	Test, measurement and microwave products	Cobham	1,460.0	639.9	122.5	2.3	11.9
7/10/2014	Hittite Microwave	High frequency antenna chips from gallium arsenide and other non silicon materials	Analog Devices	1,989.0	301.4	130.9	6.6	15.2
4/28/2014	Chelton Flight Systems	Integrated cockpit avionics systems	Genesys Aerosystems	NA	NA	NA	NA	NA
11/5/2014	Flight Display Systems	Cabin electronics for business and commercial aircraft	Harbert Private Equity	NA	NA	NA	NA	NA
5/28/2014	TRU Corporation	High performance connectors and assemblies	Winchester Electronics	NA	NA	NA	NA	NA

# Global Aerospace & Defense Deals - 2014

## Global Aerospace and Defense Deals - 2014

### MRO and Ground Equipment/Services Sector

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
10/20/2014	Wiggins Airways FBO	FBO at Manchester-Boston regional airport	BBA Aviation	16.2	NA	NA	NA	NA
4/25/2014	Skytanking USA	Independent provider of aviation fuel services	ASIG (BBA Aviation)	18.5	NA	NA	NA	NA
10/17/2014	North American Aircraft Services	MRO services for aircraft fuel systems	Triumph Group	44.7	35.0	NA	1.3	NA
6/30/2014	Scottsdale FBO	Business aviation FBO in Scottsdale	BBA Aviation	55.8	NA	NA	NA	NA
Announced	Killick Aerospace	MRO for business and regional jet aeroengines	VSE	184.0	111.0	NA	1.7	NA
4/1/2014	Aircraft Propeller Service	Aircraft propeller maintenance repair and overhaul	Iron Range Capital Partners	NA	NA	NA	NA	NA
6/27/2014	Atlantic Aero	MRO at Greensboro airport	Landmark Aviation	NA	NA	NA	NA	NA
7/31/2014	Aviation Controls Inc	Independence KS based MRO of GE J-85, Honeywell LTS-101 and RR 250 engines	Precision Aviation Group	NA	NA	NA	NA	NA
7/1/2014	Barfield	MRO based in Miami	Aero Maintenance Group	NA	NA	NA	NA	NA
2/19/2014	Cascade Airframe Repair	Airbus Helicopter and MD Helicopter repair located at Boeing Field	Advanced Helicopter Services	NA	NA	NA	NA	NA
4/22/2014	ED.N. Aviation	MRO services for aircraft cockpit panels	Velocity Aerospace Group	NA	NA	NA	NA	NA
4/30/2014	Galaxy Aviation	4 FBO locations in Florida and 1 in Colorado	Atlantic Aviation	NA	NA	NA	NA	NA
9/8/2014	ICT Aviation Services	Aviation deicing services	Yingling Aviation	NA	NA	NA	NA	NA
4/30/2014	Kellstrom Aerospace	MRO located in Florida for legacy defense aircraft	Merex	NA	NA	NA	NA	NA
9/25/2014	Mid-Continent Airmotive	MRO in Oklahoma City for turboprops and light business jets	Legacy Aviation	NA	NA	NA	NA	NA
3/14/2014	Midlantic Jet Aviation	FBO in the northeast US	Landmark Aviation	NA	NA	NA	NA	NA
3/14/2014	Race Completions	Design, manufacturer and repair of aircraft interiors	STAG Group	NA	NA	NA	NA	NA
8/1/2014	Ross Aviation	FBO with 18 locations throughout the US	Landmark Aviation	NA	NA	NA	NA	NA
7/22/2014	Sun Valley Machine Works	Landing gear overhaul and component repair for commercial and military aircraft	Blue Sea Capital	NA	NA	NA	NA	NA
5/2/2014	TUG Technologies	Ground support equipment	Textron	NA	NA	NA	NA	NA
6/19/2014	Wencor Group	Provider of aftermarket parts and repair to airlines and MRO facilities	Warburg Pincus	NA	NA	NA	NA	NA
4/9/2014	XTRA Aerospace	Specialized repair services for electrical and mechanical systems	Wencor	NA	NA	NA	NA	NA

## Global Aerospace and Defense Deals - 2014

### Space and Satellite Sector

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
8/22/2014	Astrotech Space Operations	Satellite launch preparation services	Lockheed Martin	61.0	16.3	6.0	3.7	10.2
Announced	Orbital Sciences	Launch vehicles and propulsion systems	ATK	1,390.0	1,360.0	154.0	1.0	9.0
5/19/2014	Aerospace Propulsion Products	Develops and manufactures ignition systems for space launch vehicles	Herakles (Safran)	NA	NA	NA	NA	NA
7/11/2014	Orbital Technologies	Liquid rocket propulsion, life science and support, and fire suppression	Sierra Nevada	NA	NA	NA	NA	NA



# Global Aerospace & Defense Deals - 2014

## Global Aerospace and Defense Deals - 2014 Other

Date	Target Company	Description	Acquiring Company	Enterprise Value (EV)	Revenue USD (m)	EBITDA USD (m)	EV / Revenue	EV / EBITDA
6/1/2014	Apollo Aerospace Components	Aerospace supply chain services	Park-Ohio	5.9	8.1	NA	0.7	NA
6/16/2014	Quest Aviation Supply	FAA-PMA approved supplier to repair thrust reversers	HEICO	8.7	NA	NA	NA	NA
2/27/2014	Pacific Precision Products	Oxygen systems for the business jet market	Zodiac Aerospace	46.5	NA	NA	NA	NA
7/22/2014	ThyssenKrupp Marine Systems	Submarine manufacturing facility in Sweden	Saab	51.5	253.2	NA	0.2	NA
7/29/2014	Colt International Inc	Contract fuel and trip planning services for general/business aviation	World Fuel Services	71.5	400.0	NA	0.2	NA
8/1/2014	Aluminum Services UK Ltd	Metals raw material service provider	Reliance Steel & Aluminum	145.0	293.8	NA	0.5	NA
Announced	Align Aerospace	Aerospace supply chain services and distributor of fasteners and hardware	Aviation Industry Corporation of C	NA	NA	NA	NA	NA
10/1/2014	Av-Tech Industries	Distributor of aerospace fasteners, electronic components and misc aircraft parts	Fastenal	NA	NA	NA	NA	NA
2/18/2014	Brown Aerospace	Automated fastening solutions	AIP Aerospace	NA	NA	NA	NA	NA
7/15/2014	Deposition Sciences	Producer of optical thin film coatings	Lockheed Martin	NA	NA	NA	NA	NA
8/20/2014	Desser Tire & Rubber	Distribution of aircraft tires and authorized retreading source	Graham Partners	NA	NA	NA	NA	NA
8/6/2014	Ertech Aviation	Specialist aviation coatings services company	Vance Street Capital	NA	NA	NA	NA	NA
12/23/2014	Enviro Systems	Environmental control systems for business jets and helicopters	Zodiac Aerospace	NA	34.0	6.0	NA	NA
12/15/2014	Formax UK (50%)	Lightweight multi-axial fabrics for aerospace applications	Hexcel	NA	45.0	NA	NA	NA
6/5/2014	Greenpoint Technologies	Executive widebody and BBJ completion center for interiors	Zodiac Aerospace	NA	150.0	NA	NA	NA
6/17/2014	Phoenix Coatings Resources	Manufacturer of ceramic ingots to produce high-resistant thermal coatings	Saint Gobain	NA	NA	NA	NA	NA

# Contact Information

Sheridan Capital Advisory, Inc. is a middle market merger and acquisition firm. We primarily advise businesses in sell-side transactions to provide liquidity to shareholders. We primarily focus on two industries: Aerospace and Defense, and Oilfield Equipment and Services. We look forward to developing a relationship.

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## Aerospace & Defense and Oil & Gas Transactions



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Hancock Park Associates  
Los Angeles, California, US



has been acquired by




West Midlands, United Kingdom

has acquired



Covina, California, US



West Midlands, United Kingdom

has acquired

COAST COMPOSITES  
Irvine, California, US

from

HKW Capital Partners  
II, L.P., New York, US




sale of UK airport lighting business



ATG Airports Ltd



has been acquired by

Private Investor Group

Canadian P2 Pump Sales and Service Group



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SHERIDAN CAPITAL ADVISORY, INC.



has been acquired by



SHERIDAN CAPITAL ADVISORY, INC.



Tiger Cased Hole Services, Inc.

has been acquired by



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