



**Commentary**

**Changes to the Index during the September Rebalance**

It was not necessary to make any changes to the index.

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We can best define the current period as one of stability, not in terms that the world has become a safer place or that the varied budget issues have been resolved, but that the issues and drivers of the industry continue to remain the same. There is news, of course, whether the continuing disfunction on Capitol Hill and the its possible impact on agency budgets, the emergence of Russian assistance to the Syrian government, continued tension in the Mid East, the China Sea, etc; emerging Arctic region issues, etc.-- but the fact is, that while important and worth tracking, it is mostly just noise; global economic factors have had a greater impact to the movement of share prices that changes to the sector itself. Likewise we continue to beat the same drum regarding the trends: international defense sales, commercial aerospace manufacturing, and cybersecurity and related initiatives are leading the sector. Companies continue to "work the plan": rightsizing their organizations and tweaking the capabilities they offer, keeping solid balance sheets, doing buybacks when possible.

Over the years the sector has usually been a flight-to-safety trade with growth characteristics. In the past quarter as market volatility surged, the SPADE Defense Index held steady with the S&P500 and continues to outperform the S&P500 by roughly 1.5% for the year. Outside of the 2009-2011 timeperiod, our aerospace & defense sector benchmark has outperformed the market for a decade and a half--six times by double digits. One can choose to try and time which individual stocks will outperform, but the historical track record indicates that not only should investors have an allocation in the sector but an investment in a diversified portfolio would have served them well.

**Inside the Quarter**

The top winner was Precision Castparts which received an offer from Warren Buffett in August for \$32.3 billion.

Considering the volatility in the late summer market, larger firms were able to outperform during the quarter. Just 10 of the 53 firms in the index finished positive but that included Raytheon, Lockheed Martin, and Northrop Grumman; General Dynamics and Boeing

**SPADE Defense Index Statistics**

9/30/15 Close	3776.82
12/31/14 Close:	3987.52
All-time High:	4299.50
All-time Close:	4296.88
2 February 2015	

	SPADE Defense	S&P500
3Q2015	[6.97%]	[6.94%]
YTD	[5.28%]	[6.74%]
2014	11.77%	11.39%

were negative but still managed to finish in the top third of performance.

It should be noted that OSI Systems which received a number of international orders, rebounded from summer lows to hit historic highs.

**Flows into the ETF**

Last quarter we commented on the nice inflows seen into the Powershares Aerospace & Defense ETF (PPA). The current quartersaw little change which considering the selloff shows that investors either saw the sector for a rebound potential or as a hedge to the possibility that world events could spiralled.

**Cyber Exposure in the SPADE Defense Index**

In comparison to the stability we've talked about regarding the aerospace, defense and security sector as a whole, cyber-only funds saw higher volatility and there were significant outflows to CYBR which saw assets decline by roughly half. For those seeking exposure to firms active in cyber but not the volatility...nearly 25% of the firms in the SPADE Defense Index (and therefore "PPA" which tracks it) have cyber business lines -- from Raytheon (which was just awarded a \$1+ billion contract from the U.S. government) and the large defense firms such as Northrop, Lockheed Martin, and Boeing; firms such as SAIC, Leidos, Mantech, CACI, KeyW, and CSC; and pureplays such as FireEye.

**3Q 2015 Results**

1	Precision Castparts	14.93%	28	Curtiss Wright	[13.83%]
2	Raytheon	14.19%	29	Oshkosh Truck	[14.28%]
3	Lockheed Martin	11.52%	30	Teledyne Tech	[14.42%]
4	OSI Systems	8.72%	31	Kaman	[14.52%]
5	Mercury Computer	8.67%	32	Textron	[15.66%]
6	Northrop Grumman	4.61%	33	Heico	[17.29%]
7	ViaSat	4.56%	34	American Science	[18.83%]
8	Booz Allen	4.24%	35	United Technologies	[20.35%]
9	Engility	2.46%	36	Sparton	[21.05%]
10	Leidos	2.33%	37	Aerojet Rocketdyne	[21.49%]
11	Orbital ATK	[2.03%]	38	Ducommun	[21.82%]
12	General Dynamics	[2.64%]	39	Aerovironment	[22.62%]
13	Huntington Ingalls	[4.83%]	40	Moog	[23.50%]
14	Harris	[4.89%]	41	SAIC	[23.92%]
15	Transdigm	[5.46%]	42	Esterline Tech	[24.60%]
16	Boeing	[5.60%]	43	Woodward	[25.99%]
17	Computer Sciences	[6.49%]	44	Comtech	[29.05%]
18	Honeywell	[7.14%]	45	Digital Globe	[31.56%]
19	L-3	[7.81%]	46	Kratos Defense	[33.02%]
20	CACI	[8.55%]	47	TASER	[33.89%]
21	Hexcel	[9.81%]	48	Key W Holdings	[34.01%]
22	FLIR Systems	[10.58%]	49	FireEye	[34.94%]
23	Ball Corp	[11.33%]	50	Intelsat	[35.18%]
24	Vectrus	[11.38%]	51	Triumph Group	[36.23%]
25	Rockwell Collins	[11.38%]	52	Supercom	[36.91%]
26	Cubic Corp	[11.85%]	53	AAR Corp	[40.48%]
27	Mantech Int'l	[11.90%]			

**The Benefit of Diversification**

The current quarter highlights the benefits of diversification. While the benchmark SPADE Defense Index down 6.97%, only 17 of the 53 firms outperformed the index.

Raytheon	14.19%
Lockheed Martin	11.52%
Northrop Grumman	4.61%
General Dynamics	[2.64%]
Boeing	[5.60%]

**Top YTD Gainers**

Through the third quarter, there is a mix of activities among the top performers. Orbital ATK continues to hold onto gains following its merger. The spreadsheet on page 4 has data for all firms in the Index.

Orbital ATK	25.51%
Mercury Computer	14.30%
Northrop Grumman	12.59%
OSI Systems	8.75%
Transdigm	8.18%
Hexcel	8.12%

**ETF Statistics (NYSE: PPA)**

**Powershares Aerospace & Defense**

Exchange / Ticker Symbol:	NYSE / PPA
Assets (9/30/15)	\$230 M
Closing Price (9/30/15)	\$ 32.85
Yield (12-Month Yield)	0.94%
3Q2015 Volume	2,613,000
Turnover	15%

source: Yahoo Finance

Portfolio Price / Earnings*	16.10
Portfolio Price / Book*	2.32
Portfolio Price / Sales*	1.14
Portfolio Price / Cash Flow*	7.19
Earnings Growth Rate*	12.46%
Beta (3 year)*	0.74
Alpha (3 year)*	13.2
R-squared (3 year)*	45.61

Yahoo Finance

### Performance (ex div)

	SPADE Defense Index	S&P500	Alpha (basis points)
YTD	<b>[5.28%]</b>	[6.74%]	146
2014	<b>11.77%</b>	11.39%	38
2013	<b>48.27%</b>	29.60%	1867
2012	<b>16.30%</b>	13.41%	289
2011	<b>[2.75%]</b>	[0.00%]	[275]
2010	9.62%	12.78%	[316]
2009	21.71%	23.45%	[174]
2008	[38.03%]	[38.49%]	46
2007	<b>22.17%</b>	3.53%	1864
2006	<b>19.33%</b>	13.62%	571
2005	<b>5.30%</b>	3.00%	230
2004	<b>20.47%</b>	8.99%	1148
2003	<b>37.27%</b>	26.38%	1089
2002	<b>[2.87%]</b>	[23.37%]	2050
2001	<b>0.94%</b>	[13.04%]	1488
2000	<b>4.98%</b>	[10.14%]	1512
1999	15.31%	19.53%	[422]
1998	6.63%	26.67%	[2004]

**In the past decade and a half, the SPADE Defense Index outperformed the broader market in 12 of 15 years, 6 times by double digits.**

### About the SPADE Defense Index

The SPADE Defense Index (NYSE: DXS) provides an investment benchmark for the value that the market ascribes to companies involved with defense, homeland security, and space.

The Index is designed to reflect the broad diversity of activities that is representative of companies involved with the sector – including industrial firms that manufacture aircraft, tanks, ships, and missiles; and those involved with current and next generation systems related to network centric warfare and information technology; intelligence, surveillance, and reconnaissance; satellites; border security; and defense systems that protect the lives of our servicemen and servicewomen.

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SPADE Indexes specializes in designing and managing equity benchmarks for ETF and other products.

### Licensed Products

#### Exchange Traded Fund - ETF

Licensed to Invesco Powershares, the Powershares Aerospace & Defense Portfolio ETF (NYSE: PPA) is designed to track the performance of the SPADE Defense Index.

#### Rules

The Index was designed to be RIC (registered investment company) compliant for the purpose of enabling financial products. Companies are required to meet a variety of eligibility criteria including market valuation, liquidity, and listing on a major U.S. exchange. Full details are available on our website.

\* Market Cap: Minimum \$100M

\* Share Price: Minimum \$5.00

\* Sufficient Liquidity

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