AEROSPACE AND DEFENSE

INVESTMENT BANKING

2017: Year-End Review

M&A Overview

By almost any definition, 2017 marked one of the more interesting years for the aerospace and defense ("A&D") sector that we have seen in some time. In a year which began with the incoming president publicly criticizing industry giants The Boeing Company ("Boeing") and Lockheed Martin Corporation ("Lockheed") for unfair pricing practices, and closed with the public markets at record highs, defense spending on the rise and near-record profits for commercial airlines, it was a quite the ride. All told, 2017 was notable in that some of the key merger and acquisition ("M&A") transactions that occurred will reshape the supply chain for years to come. A few industry highlights from 2017 include:

- Deals amounting to over $56 billion in combined transaction value announced, with four deals over $1 billion.
- Commercial airlines announced an aggregate of $34.6 billion in profits coming off similar levels in 2016, which saw $35.3 billion in aggregate profits.
- Congress approved a $640 billion defense spending budget.
- Congress passed a sweeping $1.5 trillion tax reduction overhaul, reducing personal, and notably, corporate income tax rates.
- The aerospace supply chain saw several milestone transactions further consolidating the industry: Safran SA's pending acquisition of Zodiac Aerospace, Rockwell Collins, Inc.'s acquisition of B/E Aerospace Inc. and United Technologies Corporation's pending acquisition of Rockwell Collins, Inc.
- Boeing and Airbus booked 912 and 1,109 new orders, finishing the year with an estimated seven and nine years of backlog, respectively.

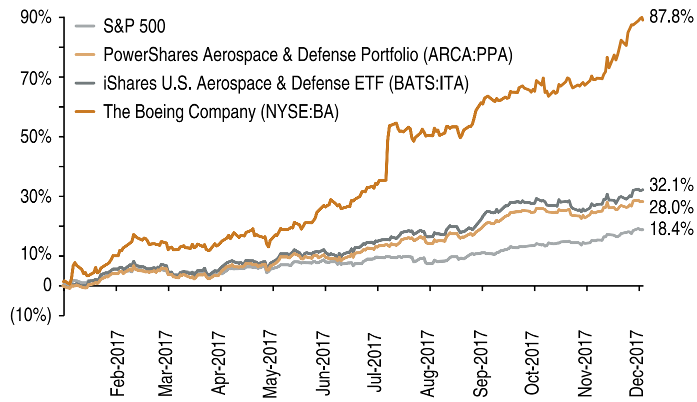
Favorable industry dynamics continue to drive strong performance in A&D equities. The A&D universe significantly outperformed the broader equity market in 2017, as depicted in *Chart 1*. Underscoring the sector's strength in 2017, Boeing's shares rose from $156.97 to $294.91, an 87.8% increase over the year which contributed significantly to the rise of the Dow 30.

Many factors have contributed to the continued success of the industry including a healthy economy, low and slowly rising interest rates, continued low oil prices and a rising middle class across China and many other emerging markets. These factors combined have served to continue to grow worldwide air passenger traffic.

M&A activity within the top tiers of the aerospace supply chain remained strong overall in 2017, with more large transactions and fewer overall announced deals, as

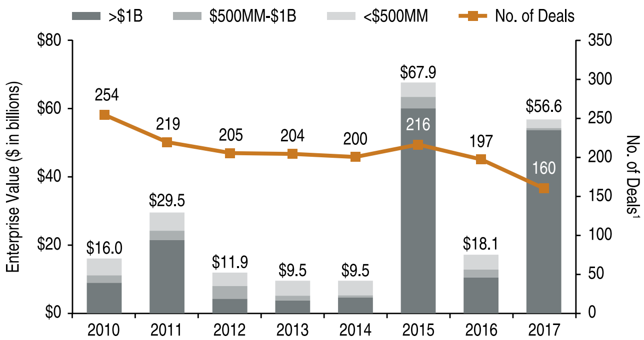
IN THIS ISSUE

CHART 1 | **Aerospace & Defense ETF Share Price Performance Against the S&P 500: 2017**



Source: S&P Capital IQ.

CHART 2 | **Aggregate A&D Deal Volume by Transaction Range: 2010 through 2017**

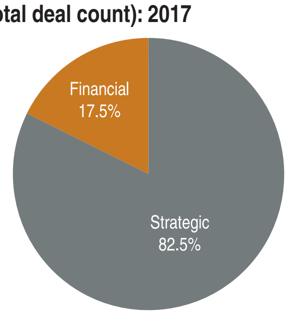


Source: S&P Capital IQ.
1. Only includes deals with disclosed deal value.

evidenced by *Chart 2*. Deal activity, as measured by total value, was up in 2017 due to several large transactions that will have an immediate impact on the commercial aerospace supply chain.

Many industry advisors, including Mesirow Financial, believe Boeing's "Partnering for Success 2.0" program and recent in-sourcing initiatives (from both Airbus and Boeing) created the impetus for supply chain consolidation and have the potential to shape the supplier/Original Equipment Manufacturer ("OEM") dynamic for years to come. Further, private equity firms continue to invest heavily in the commercial aerospace supply chain, with several firms currently executing buy-and-build strategies in segments such as precision machining and composites and advanced materials, among others. Valuation multiples for private transactions, which can vary markedly by segment, have remained strong across the board in 2017 and currently sit near recent historical benchmarks.

CHART 3 | **Number of A&D Transactions by Buyer Type (% of total deal count): 2017**



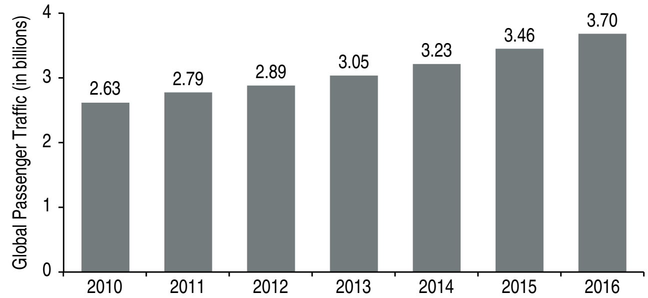
Source: S&P Capital IQ.

Commercial Aerospace

The commercial aerospace industry delivered another strong year in 2017 as Boeing and Airbus (collectively the "OEMs") introduced new aircraft and reported significant orders from airlines. We expect this momentum to continue through 2018, as airlines are projected to achieve record high profitability and rising passenger traffic.

As consolidation continues throughout the supply chain, OEMs have become more aggressive in their positioning to gain market share and cut costs. Pressure from

CHART 4 | **Global Passenger Traffic: 2010 – 2016**



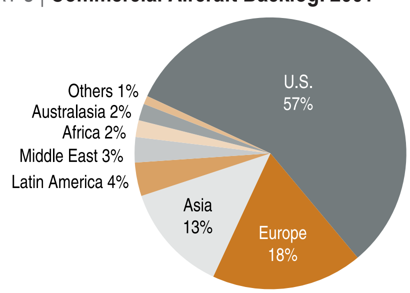
Source: IATA.

shareholders are forcing OEMs to take cost out by growing their aftermarket presence, and for good reason. The aftermarket is expected to show favorable momentum going forward given the rise in air traffic growth, size of fleet older than five years and continued airline profitability.

As shown in *Chart 4*, air traffic growth has seen a 5.7% increase over the last five years, slightly above the 5% long-term average. This is expected to continue as global macroeconomic trends continue favorably and airfare costs remain low. The rising middle class in China and other key emerging markets will continue to play a key role in regional production diversification. *Charts 5* and *6* show the shift in regional commercial aircraft backlogs from 2001 to present. Mesirow expects regional players like China's AVIC to play an increasingly active role in the supply chain, likely using acquisitions as a vehicle to grow into new markets and expand its customer base.

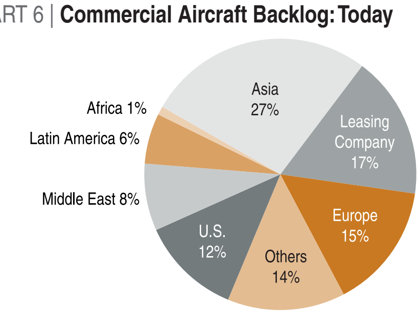
The fleet of aircraft older than five years also has a significant impact on the aftermarket, as this is when many aircraft go out of warranty. Given the current mix in fleet age and the fact that fewer aircrafts are being retired, the aftermarket will continue to be an attractive area for

CHART 5 | **Commercial Aircraft Backlog: 2001**



Source: Deutsche Bank, Fleets Analyzer.

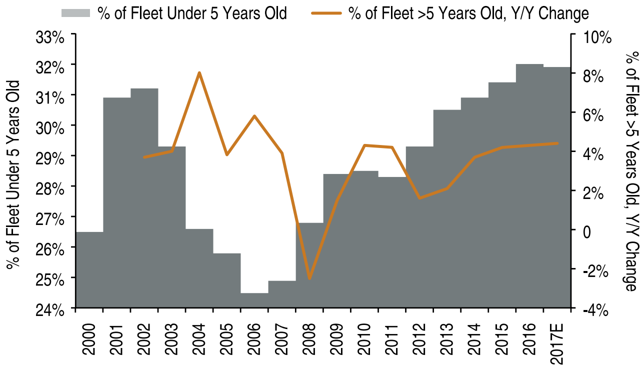
CHART 6 | **Commercial Aircraft Backlog: Today**



Source: Deutsche Bank, Fleets Analyzer.

consolidators to focus driving M&A activity. *Chart 7* details the steady increase in growth of these aircraft, a trend that is expected to climb as their rise outpaces the growth in newly delivered aircraft.

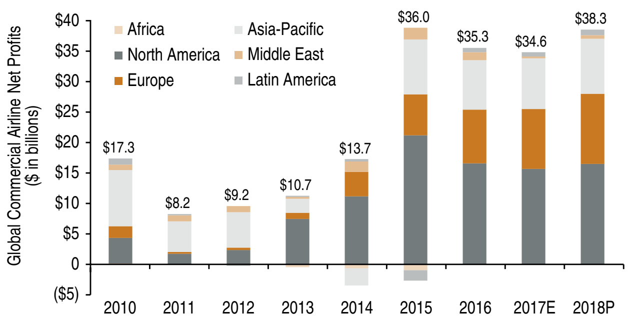
CHART 7 | **Installed Base Over 5 Years Old: 2000 – 2017E**



Source: IATA, RBC Capital Markets.

With increased travel and lower fuel prices, airlines have seen a significant jump in profitability over the last several years, resulting in a heightened deployment of discretionary income. In order to attract and retain new customers, many airlines have been upgrading fleets and offering refreshed cabin interiors with improved in-flight services, in-flight connectivity and entertainment. Mesirow has seen many of its clients benefit from this trend and we expect airlines to further invest in this area. *Chart 8* provides a detailed view of global commercial airline net operating profits.

CHART 8 | **Global Commercial Airline Net Operating Profits: 2010 – 2018P**

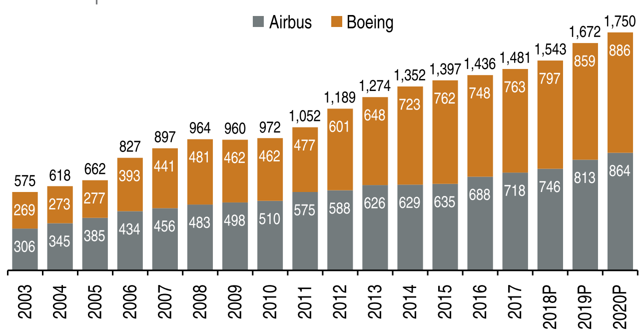


Source: IATA.

Turning to the production side, Boeing delivered 763 commercial aircraft in 2017, up slightly from 748 in 2016. The boost in delivery is supported by a strong backlog, which includes 4,413 planes for its 737 narrowbody aircraft. Boeing will lean heavily on its suppliers over the coming years, as production rates will continue to climb, with 47 planes being produced per month in 2017, which will follow by 52 and 57 for 2018 and 2019, respectively.
By comparison, Airbus delivered roughly 50 aircraft per month of its narrowbody competitor, the A320, a rate that should increase to 52 in 2018. The ramp up in production will put a strain on the supply chain for some years to come.

One OEM storyline that will continue to play out in 2018 is the continued interest of Boeing and Airbus in regional jet makers. In October 2017, Airbus announced a controlling stake in Bombardier Inc.'s ("Bombardier") CSeries jetliner program, a deal which underscores the competitive pressures in the single-aisle market. Following the announcement, Boeing lodged a complaint toward Bombardier, alleging that the company received unfair government subsidies. The U.S. Commerce Department responded by enacting duties of nearly 300% on passenger jets made by Bombardier, a clear win for Boeing. In response to the new duties, Bombardier's CEO Alain Bellemare stated, "Bombardier has an aircraft that nobody produces except Embraer. The real competitor to this aircraft is Embraer, it's not Boeing." Adding further "jet fuel" to the fire, Boeing and Embraer recently announced in a joint statement that the two companies were in talks of a potential merger. While there are several hurdles that both companies would have to overcome, including the blessing of the Brazilian government, this backyard brawl between Boeing and Airbus will certainly be one to watch as it plays out in 2018.

CHART 9 | **Production Rate Forecasts: 2003 – 2020P**



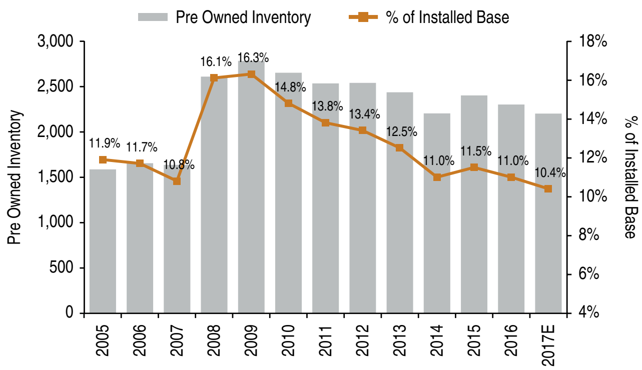
Source: Boeing, Airbus.

Business Aviation

The business aviation market faced another year of headwinds as manufacturers continued to work through structural challenges stemming from a higher-than average inventory. While total inventory matched a post-crisis low of 2,200 aircraft, absolute inventory is still 33% higher than the 2005-2007 average, as shown in *Chart 10*. Pricing in the secondary market continues to put pressure on new orders, with inventory needing further decline to produce a rebound in new aircraft orders. According to Honeywell International ("Honeywell"), approximately 8,300 new business jets worth $249 billion will be delivered worldwide in the next decade, representing a 2% to 3% reduction from their 2016 forecast. 2018 deliveries are projected to be slightly higher than the 620 to 640 deliveries projected in 2017, reflecting transitions to new models slated for late 2017 and 2018 service entry. Near-term modest growth is primarily driven by declining used aircraft prices, low commodity prices and economic and political uncertainties. Operators plan to purchase the equivalent of 19% of their fleet over the next 5 years, a decrease of 8% compared to the 2016 survey results with larger cabin aircraft classes expected to account for more than 85% of all expenditures over the next 5 years. Honeywell's long-range forecast through 2027 projects a 3-4% average annual growth rate despite the lower near-term outlook, driven by new programs entering service, improved economic performance and higher commodity prices.

When we visited the National Business Aviation Association Convention and Exhibition in October 2017, the sentiment from many attendees was a "wait & see" approach while being cautiously optimistic. Backlogs are largely holding up, however, new sales/order books are not growing across the board. Most suppliers are looking to 2018 and 2019 for production ramp up with the rollout of new platforms.

CHART 10 | **Ratio of Used Business Jet Inventory as a % of Installed Fleet: 2005 to 2017E**

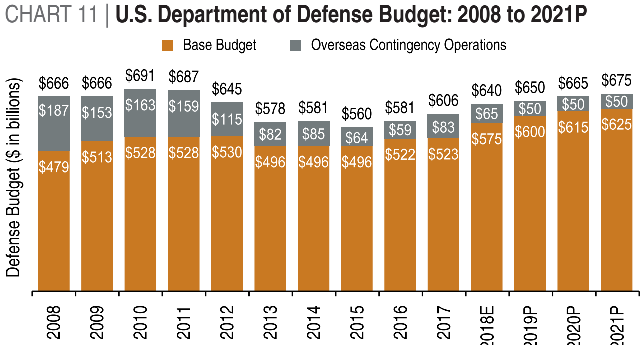


Source: Deutche Bank, JETNET.

Defense

2017 marked the second consecutive year of defense budget increases as a result of an accommodative Trump administration and aligned congress. We are two years into a current up-cycle that has historically seen an average run of ten years. The newly approved budget included $575 billion of base budget and another $65 billion for Overseas Contingency Operations funding; an increase of 6%, the highest since 2010. After a year that included $350 billion of defense sales to Saudi Arabia over the next ten years, U.S. defense sales are poised to see a significant increase in not only domestic sales, but also abroad. This is a result of an elevated foreign threat environment, as well as the current administration's pressure on NATO members to increase NATO-related spending to 2% of GDP, of which less than half do so currently. As evidenced by *Chart 11*, many on Wall Street expect the defense budget to continue its growth from a trough through 2021.

CHART 11 | **U.S. Department of Defense Budget: 2008 to 2021P**



Source: Goldman Sachs Global Investment Research, Office of the Under Secretary of Defense (Comptroller).

Transaction Spotlight

Northrop Grumman Corporation's Purchase of Orbital ATK, Inc.

Deal Value $9.2 Billion

Enterprise Value / Revenue 2.10x

Enterprise Value / EBITDA 15.3x

In September 2017, Northrop Grumman Corporation and Orbital ATK announced they had entered into a definitive agreement under which Northrop Grumman will acquire Orbital ATK, which manufactures and delivers space, defense and aviation systems for customers around the world, both as a prime contractor and merchant supplier. The combined groups will have expanded capabilities and accelerated innovation in critical global security domains. The transaction is also highly strategic as it combines the companies' complementary portfolios and technology-focused cultures, which will yield significant value creation through revenue synergies associated with new opportunities, cost savings, operational synergies and enhanced growth.

United Technologies, Inc.'s Purchase of Rockwell Collins, Inc.

Deal Value $30.4 Billion

Enterprise Value / Revenue[1] 3.52x

Enterprise Value / EBITDA[1] 14.4x

In September 2017, United Technologies announced that they had entered into a definitive agreement to acquire Rockwell Collins, Inc., a leader in aviation and high-integrity solutions for commercial and military customers and is globally recognized for its leading-edge avionics, flight controls, aircraft interior and data connectivity solutions. The combination will create a premier aerospace system supplied that is well-positioned to meet rapidly evolving global customer demands. Further, the combined portfolio will enhance innovative systems capabilities and integrated digital product offerings, including avionics, flight controls and data services.

1. Forward earnings adjusted to include Rockwell Collins, Inc.'s acquisition of B/E Aerospace Inc. in April 2017.
Note: Mesirow Financial did not represent any of the acquirers or targets in connection with the transactions noted on this page, and is not currently representing any of the listed acquirers or targets.

The greatest risk hindering defense spending going forward continues to be the increasing possibility of Democrats overtaking either the House or Senate during mid-term elections in 2018. While defense spending has enjoyed broad Congressional support, programs such as missile defense, which align with pentagon and DOD priorities, will continue to see the largest budget increases.

Market Outlook

Given the record backlogs at Boeing and Airbus and the continued growth in passenger traffic and geopolitical tensions in the Middle East, Korean peninsula and elsewhere, we expect A&D valuations to continue to hold up in 2018. As any observer of the aerospace industry knows, good times never last and we certainly are due for a correction as typical cycles go but considering barely 20% of the world has ever experienced air travel, there is reason to believe any correction will be short-lived. Further, the industry's push for production efficiency and cost savings should continue to drive consolidation where scale and access to new products and customers are key drivers. Similarly, we expect the defense sector to continue to outperform other areas of the economy. While somewhat muted over the last several years, we expect a robust M&A environment in the defense sector over the next several years as consolidation activity is typically driven by spending cycles. The areas of missile defense, cyber and C4ISR in particular have become sectors of keen interest to primes.

Featured Mesirow Financial Deal

TELEFONIX PDT™

has been acquired by

ASTRONICS CORPORATION

— Sell-side Advisor —

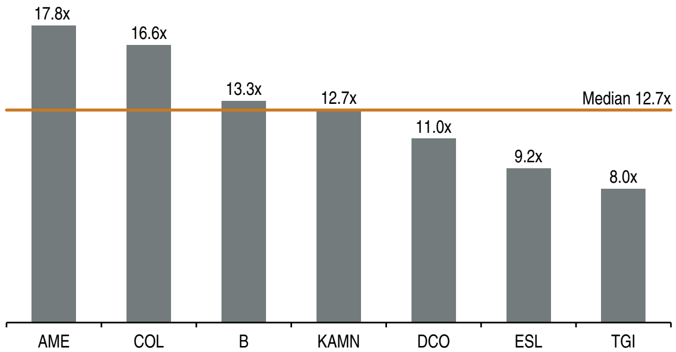
Astronics Corporation's Acquisition of Telefonix, Inc. and Product Development Technologies, LLC

- Mesirow Financial served as the exclusive financial advisor to Telefonix Inc. and a related company, Product Development Technologies, LLC (together as "Telefonix PDT" or the "Company") in a transaction in which Astronics Corporation acquired substantially all the assets of Telefonix PDT.
- Located in Waukegan and Lake Zurich, IL, Telefonix PDT is a full-service product design, development and manufacturing company that supplies advanced, in-flight entertainment and connectivity equipment to the aerospace industry. Astronics Corporation ("Astronics"), headquartered in East Aurora, NY, is a leading provider of high-performance lighting, electrical power, specialized avionics products and automated test systems for the global aerospace and defense industries.
- Telefonix PDT entered into an exclusive negotiation with Astronics Corporation, a leading provider of advanced, high-performance lighting, electrical power, specialized avionics products and automated test systems for the global aerospace and defense industries.
- Mesirow effectively communicated a compelling rationale for a strategic buyer, highlighting Telefonix PDT's broad portfolio of innovative products, engineering expertise, longstanding customer relationships and top quartile industry financial performance, which helped in driving a premium valuation.
- The transaction closed in December 2017.

Public Company Trading Analysis

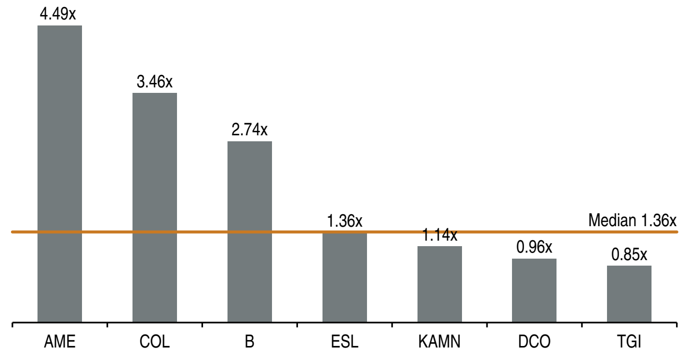
Selected Aerospace Suppliers

CHART 12 | **Enterprise Value / LTM EBITDA**



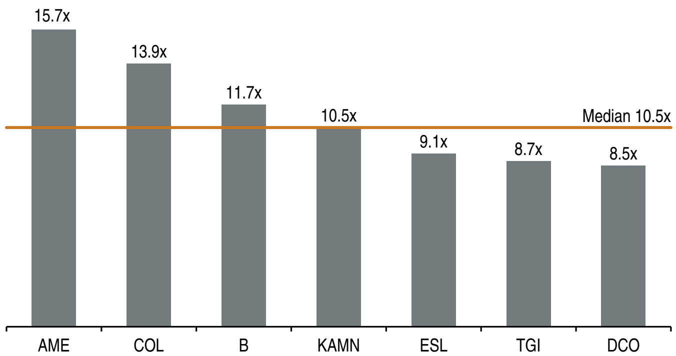
Source: Bloomberg, S&P Capital IQ.

CHART 13 | **Enterprise Value / LTM Revenue**



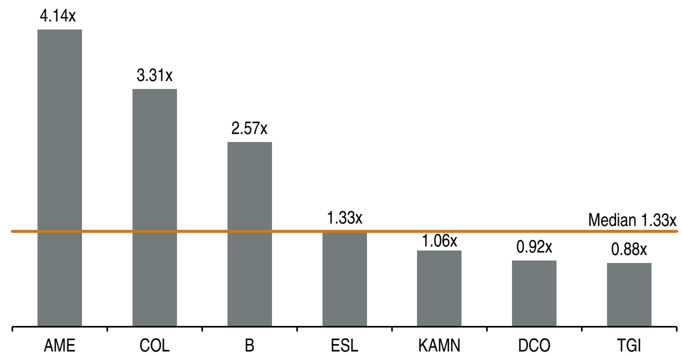
Source: Bloomberg, S&P Capital IQ.

CHART 14 | **Enterprise Value / NTM EBITDA**



Source: Bloomberg, S&P Capital IQ.

CHART 15 | **Enterprise Value / NTM Revenue**



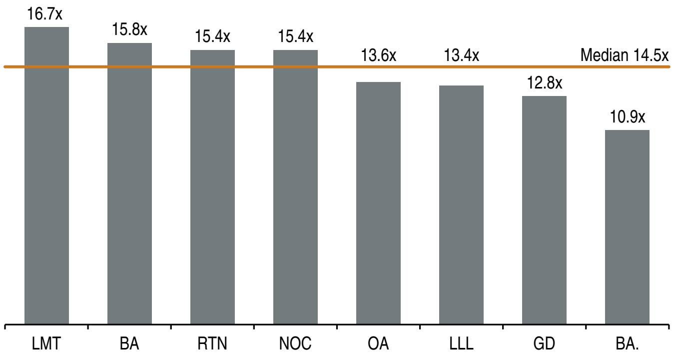
Source: Bloomberg, S&P Capital IQ.

AME: Ametek, Inc., B: Barnes Group Inc., DCO: Ducommun Inc., ESL: Esterline Technologies Corp., KAMN: Kaman Corporation, COL: Rockwell Collins Inc., TGI: Triumph Group Inc.

Public Company Trading Analysis

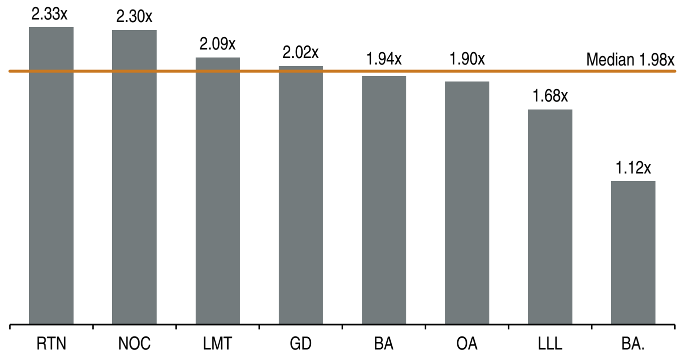
Selected Defense and Prime Contractors

CHART 16 | **Enterprise Value / LTM EBITDA**



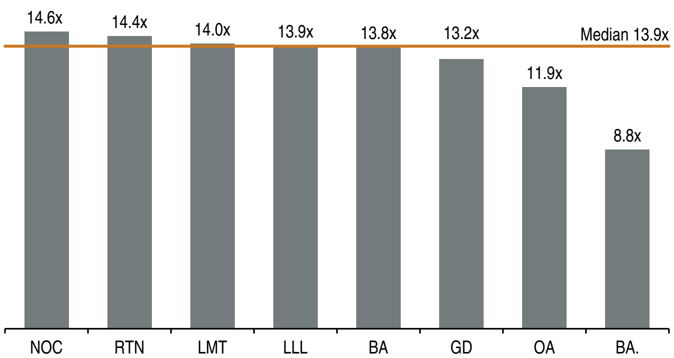
Source: Bloomberg, S&P Capital IQ.

CHART 17 | **Enterprise Value / LTM Revenue**



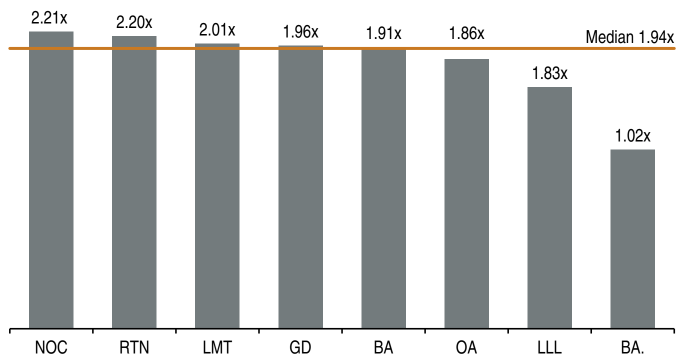
Source: Bloomberg, S&P Capital IQ.

CHART 18 | **Enterprise Value / NTM EBITDA**



Source: Bloomberg, S&P Capital IQ.

CHART 19 | **Enterprise Value / NTM Revenue**



Source: Bloomberg, S&P Capital IQ.

BA.: BAE Systems plc, BA: The Boeing Company, GD: General Dynamics Corp., LLL: L-3 Communications Holdings Inc., LMT: Lockheed Martin Corporation, NOC: Northrop Grumman Corporation, OA: Orbital ATK, Inc., RTN: Raytheon Co.

Dedicated M&A Advisor to the Aerospace and Defense Sector

Mesirow Financial Investment Banking is consistently focused on elevating the experience for our clients. With extensive sector-specific expertise and deep long-standing relationships, our dedicated aerospace and defense team has a proven track record of completing highly complex and successful transactions. Our highest priority is helping individuals and organizations achieve their financial and strategic goals.

Contact Us

Andrew Carolus
312.595.7802
acarolus@mesirowfinancial.com

Adam Oakley
312.595.6692
aoakley@mesirowfinancial.com

Visit us online at mesirowfinancial.com/investmentbanking

Mesirow Financial®