

AEROSPACE | DEFENSE | GOVERNMENT | SECURITY MERGERS & ACQUISITIONS UPDATE 2020

Year in Review and Outlook



Capstone Headwaters

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Year in Review and Outlook

We present our Mergers & Acquisitions Update 2020: Outlook and Year in Review. This report combines discussion on the current environment and dramatic fall out from the COVID-19 pandemic; together with observations from those sectors less impacted; and a review of last year including Merger & Acquisition (M&A) activity.

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COMMERCIAL AEROSPACE HITS DOWNDRAFT, DEFENSE & GOVERNMENT FIND SHELTER

Our report provides a wealth of information and perspectives, and discusses:

- ▶ Observations from prior cycles
- ▶ Government assistance available
- ▶ Lenders dust off recession play book
- ▶ Steady level of M&A in 2019, surge in large transactions
- ▶ Multiple challenges facing Commercial Aerospace
- ▶ Steady outlook for Defense spending
- ▶ Resiliency in Government IT Services
- ▶ Continued growth in Cybersecurity
- ▶ Winners & losers in Simulation & Training
- ▶ Recession will hit M&A, but not all equally

Our services include advising on:

- ▶ Mergers & Acquisitions
- ▶ Divestures & Sales of Businesses
- ▶ Raising Debt & Equity Capital
- ▶ Refinancing & Restructuring

To learn more about Capstone Headwaters Aerospace, Defense, Government & Security (ADG&S) Practice or to discuss the content of this report please do not hesitate to get in touch.

OVERVIEW

01

COMMERCIAL AEROSPACE HITS DOWNDRAFT, DEFENSE & GOVERNMENT FIND SHELTER

COVID-19 Downdraft Blasts Commercial Aerospace

The Aerospace industry has always been cyclical and capital intensive; however, it has never witnessed anything like the current downdraft. Participants are borrowing from the playbook of banks in the financial crisis and seeking government support.

The U.S. Federal Government responded to the COVID-19 pandemic with the CARES (Coronavirus Aid, Relief, and Economic Security) Act, the largest economic rescue plan in U.S. history seeking to bolster the economy via a \$2 trillion relief package as well as other measures. Legislation was designed to protect jobs and those hardest hit and includes close to \$100 billion in specific funding for the Aerospace and Defense sector.

The lifeblood of the economy is credit availability and we expect lenders will grab their recession playbook from the shelf, dust it off and do what they have done before, albeit with greater government support. We are encouraging borrowers to: maximize liquidity, engage with existing lenders, and prepare materials including scenario planning, sensitized models, cost analysis and mitigation plans.

Our report looks at observations from prior cycles:

- ▶ M&A activity and transaction multiples have been more consistent through prior downturns than typically perceived.
- ▶ The Airline industry has rebounded quickly from previous shock events, but the effects of economic recessions have taken far longer. When it comes to Aerospace earnings in the current environment, however, prior cycles provide little guidance.
- ▶ Military production provided manufacturers some protection through previous downturns, but commercial aerospace grew to a greater share through the recent boom.

In 2019, what now seems another world, the number of M&A industry transactions remained broadly stable, but the value soared — increasing almost threefold over previous levels to more than \$170 billion. The increase was not confined to the United Technologies (formerly NYSE:UTX) and Raytheon (NYSE:RTN) merger (\$93 billion, closed April), but was far broader: the number of transactions over \$1 billion doubled to 17. Such a surge in transaction values is typical in the later stages in an M&A cycle.

OVERVIEW:

- ▶ **Commercial Aerospace hits downdraft, Defense & Government find shelter**
- ▶ **Observations from prior cycles**
- ▶ **Government assistance available**
- ▶ **Lenders dust off recession play book**
- ▶ **Steady level of M&A in 2019, surge in large transactions**
- ▶ **Challenges facing Commercial Aerospace**
- ▶ **Steady outlook for Defense spending**
- ▶ **Resiliency in Government IT Services**
- ▶ **Continued growth in Cybersecurity**
- ▶ **Winners & losers in Simulation & Training**
- ▶ **Recession will hit M&A, but not all equally**

M&A activity will undoubtedly be impacted by the shutdown and slowing economy. Commercial aerospace and the manufacturing supply chain will be hardest hit and most in need of financing solutions, while Defense and Government IT will likely provide some insulation



The industry is 'critical infrastructure' and a huge part of the economy: governments will do their best to ensure much remains. Long-term factors driving underlying industry growth will eventually return, and this too shall pass.

The global coronavirus pandemic has had an unprecedented impact on Airlines and the Aerospace industry. Few flights are operational and workers are being laid off. Pain is not limited to airlines: with aircraft parked, aircraft values falling, and new orders evaporating, suffering will be throughout the industry and manufacturing supply chain. Even before the crisis, storm clouds were gathering:

- ▶ Global passenger growth and airline profitability were slowing in the face of weaker economic activity.
- ▶ Boeing had suspended production of the 737 MAX after months of building for inventory and did not expect to return to pre-grounding production levels until 2022. Discomfort began to be felt by suppliers as orders evaporated.

Nonetheless, the industry is "critical infrastructure" and a huge part of the economy: governments will do their best to ensure much remains. Long-term factors driving underlying industry growth will return, and this too shall pass. The depth and length of the downturn will be determined by the duration of the virus, the economy, and when travelers who choose to and can afford to fly again, and the financial destruction on the industry itself. Not all will survive, and the industry will emerge financially weaker. We expect that bank negotiations, refinancing, financial restructuring and survival acquisitions will be prevalent.

Shelter for Defense & Government IT Services

Defense has provided some insulation from economic cycles in the past, and the industry is currently benefitting from the 3.6% increase in the 2020 Discretionary Budget. The Trump Administration's Department of Defense (DOD) request reflects a \$0.8 billion increase above the 2020 enacted level for base and OCO (Overseas Contingency Operations) funding. Of note:

- ▶ Cuts to OCO requests for war requirements and sustainment of bases.
- ▶ Investments in future technologies through RDT&E (Research Development Test & Evaluation) expenditure supporting space and the new space force, cyber programs, and artificial intelligence.

In line with the National Defense Strategy, the FY2021 DOD budget priorities are: strengthening military readiness toward great power rivals; increasing spending by other NATO (North Atlantic Treaty Organization) countries; streamlining bureaucracy; and supporting service members including with pay increases. The request includes a 2% decline in modernization accounts which drive revenue for aerospace & defense companies: reductions in the DOD's largest programs could be greater. The Government IT (Information Technology) and services sector has also demonstrated resiliency and an ability to lead out of the trough in the immediate wake of previous economic shocks. There are reasons to believe this will again be the case based on relative strengths, including:

- ▶ A substantial portion of both defense and civilian contract operations have been deemed essential activities, allowing for consistency in operations during the volatility of the correction.
- ▶ Within the middle market, high performing, well positioned companies will emerge to new opportunities that build on core competencies in cloud computing and distributed environments, cybersecurity, agile software development, next generation C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) engineering and intelligence support.
- ▶ While 2019 witnessed record M&A transaction volume in Government IT, the current suspension of capital markets underscores the primacy of the strategic buyer and the most coveted targets in a more selective deal environment.

Cybersecurity is another segment weathering the COVID-19 storm better than many sectors:

- ▶ Cybersecurity has become a critical “must have” for public and private sector organizations and attackers are not taking a hiatus to allow the world to focus on maintaining physical health.
- ▶ In addition, the work from home phenomena and the trend towards a more distributed workforce is creating new vulnerabilities requiring incremental investments in cyber defenses.

While in the short term, cybersecurity companies may direct attention to address these shifting needs, the long-term prospects for continued growth, acquisitions, and financing continues at pace.

Although Simulation & Training (S&T) will see effects from the coronavirus as a result of reduced flight hours and relief from pilot shortages, the underlying shift towards simulators remains and the sector will benefit from:

- ▶ MAX pilots being required to undergo simulator training.
- ▶ Military demands for simulator training from an increasing shortage of military pilots and maintenance personnel. The DOD budget request includes a 21% increase in funding for training over 2017 levels.
- ▶ Technology advances providing ever improving simulation capabilities and resulting cost advantages over traditional training.

Future M&A activity will undoubtedly be impacted by the shutdown from coronavirus and the slowing economy, as attention is diverted inward to address operating challenges and greater caution is shown by capital providers.

- ▶ Commercial aerospace and the manufacturing supply chain will be hardest hit and most in need of financing solutions. Companies will be looking to raise cash and negotiate with capital providers. There will also be divestitures to reduce debt and survival acquisitions.
- ▶ Other segments will be less affected: Defense will provide some insulation; Government IT will likely also show resiliency; Cybersecurity continues growing at pace; and S&T is underpinned by compelling economic and capabilities advantages.



Photos courtesy of Managing Director Ian Cookson. The images were taken by his grandfather, Arthur Waring (bottom left), who served in the Royal Air Force Photographic Corps in North Africa during World War II. These photos were taken from thousands found in boxes in the attic after his death. Each has his handwritten explanation on the back.



PRIOR CYCLES

02 OBSERVATIONS FROM PREVIOUS CYCLES

The Aerospace industry has always been cyclical and highly dependent on significant amounts of new capital to finance growth, both for airlines and the manufacturing supply base. However, never since it has been in its current form, has the industry seen anything like the impact from the current environment.

Participants have resorted to the playbook from banks seeking government support through the financial crisis and share many of the same characteristics being “critical infrastructure” and “too big to fail.” There are other observations which can be seen from prior downturns.

M&A activity has been more consistent through prior downturns than typically perceived

Over the past two cycles M&A activity has declined by about a third, with a two-year period from peak to trough (across all industries). The fall-off in the value of transactions, however, is far larger declining by around two thirds as block buster acquisitions are typical late in a cycle.

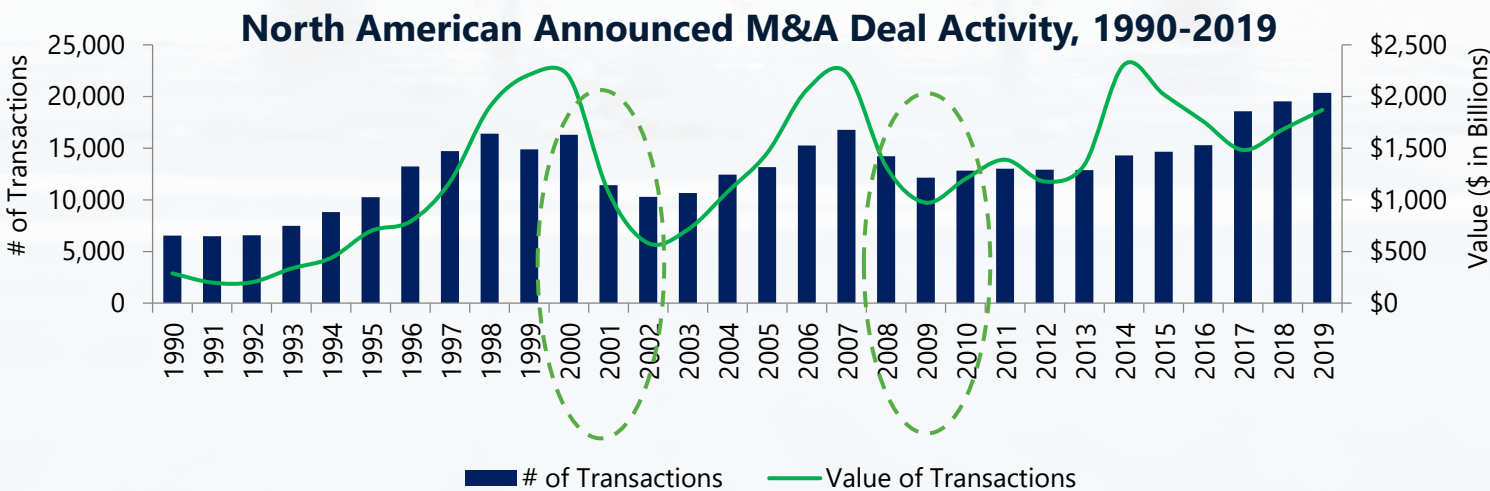
Buyer demand can pick up quickly coming out of a downturn but is often left unsatisfied due to the lag of transaction timelines and seller decision making. Seller motivation often transitions to a need to “satisfy cash requirements” or wanting to “avoid the pressures of owning a business through another downdraft when business simply isn’t fun anymore.”

IN PRIOR CYCLES

- ▶ **M&A activity and transaction multiples have been more consistent through prior downturns than typically perceived.**
- ▶ **The Airline industry has rebounded quickly from previous shock events, but the effects of economic recessions have taken far longer. When it comes to Aerospace earnings in the current environment, however, prior cycles provide little guidance.**
- ▶ **Military production provided manufacturers some protection through previous downturns, but commercial aerospace grew to a greater share through the recent boom.**

Prior M&A Cycles – Peak to Trough

Prior M&A Cycles	M&A Transactions		
	Number	Value	Duration
2000-2002	-37%	-73%	2 years
2007-2009	-28%	-56%	2 years
Average	-32%	-65%	2 years



Source: Capital IQ

Transaction multiples for smaller private companies have been more stable than often assumed:

Much is made of transaction multiples. However, these are typically more consistent than is generally perceived. Rather, it is the earnings part of the equation which proves more volatile. Consequently, we expect to be presenting "normalized coronavirus adjusted EBITDA" in much of our work going forward.

Viewed through the lens of transaction size, acquisition multiples paid by private equity in M&A transactions through the last downturn were surprisingly stable. This is particularly true in purchases by private companies and of smaller businesses. Indeed, part of the decline in multiples can be explained as a simple function of transactions themselves being smaller.

We have seen a fundamental upward rerating of transaction multiples for larger businesses over the past 15 years. This is likely part structural and part cyclical, fueled by increased availability of debt and private equity capital.

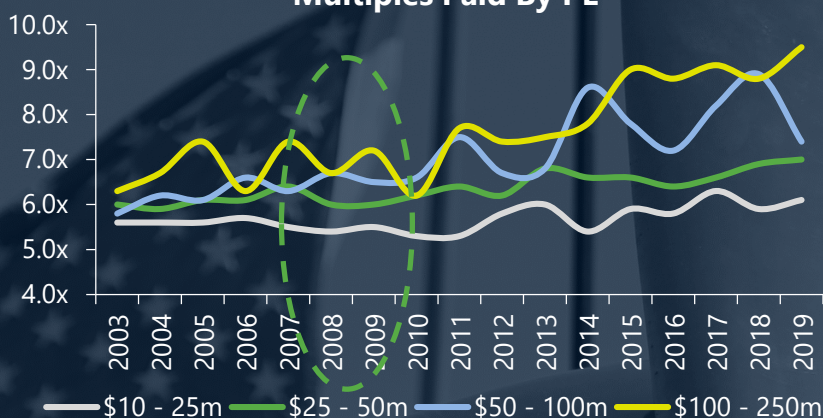
Transaction multiples can be expected to weaken somewhat going forward on the back of lower debt availability, particularly for larger acquisitions where debt has been most available. It was private equity (PE) groups' ability to arbitrage this spread in multiples through buy-and-build consolidation that attracted them to the Aerospace industry, combined with the comfort provided by increasing air travel and the visibility from many years of backlog. Industry business owners who lived through previous cycles understood just how quickly those orders can disappear.

Private equity capital seeking investment is yet again at record highs, as capital and smaller companies continue their structural shift from public to private markets. While new fund raising can be expected to fall in the face of declining public markets, PE has plenty of capital to be going on with.

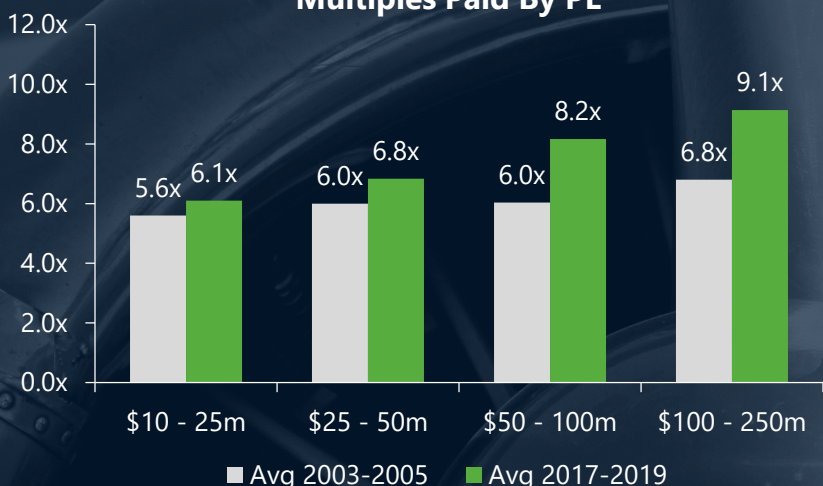
In the short term we expect to hear PE groups repeat well-worn phrases from the last recession of "prioritizing capital and attention to their current portfolio" together with "seeking opportunities for special situation funds." That is, until they again rush headlong to put money to work.

We expect more of our work in the days ahead to be around helping companies negotiate with banks and raise capital as clients' traditional capital providers seek to minimize their exposures.

M&A Transaction EV/EBITDA Multiples Paid By PE



M&A Transaction EV/EBITDA Multiples Paid By PE



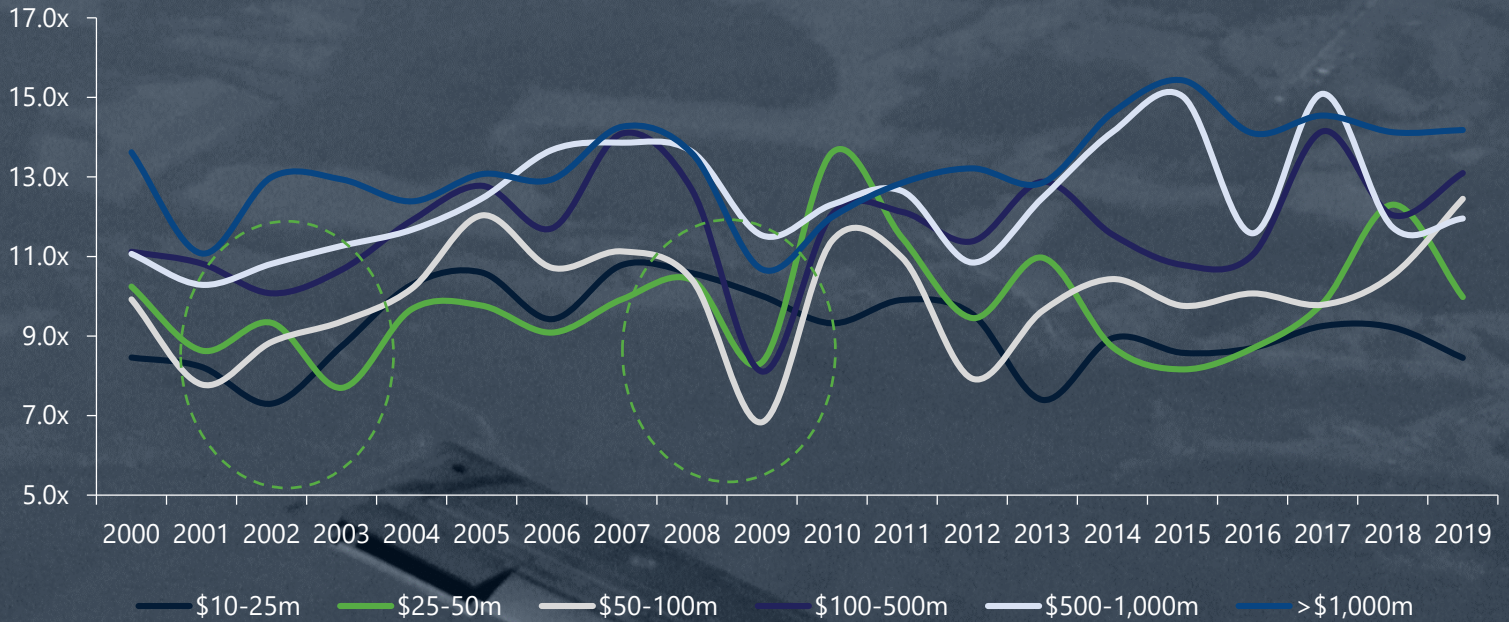
Source: GF Data®

PE Capital Available for Investment/Capital Raised (\$B)



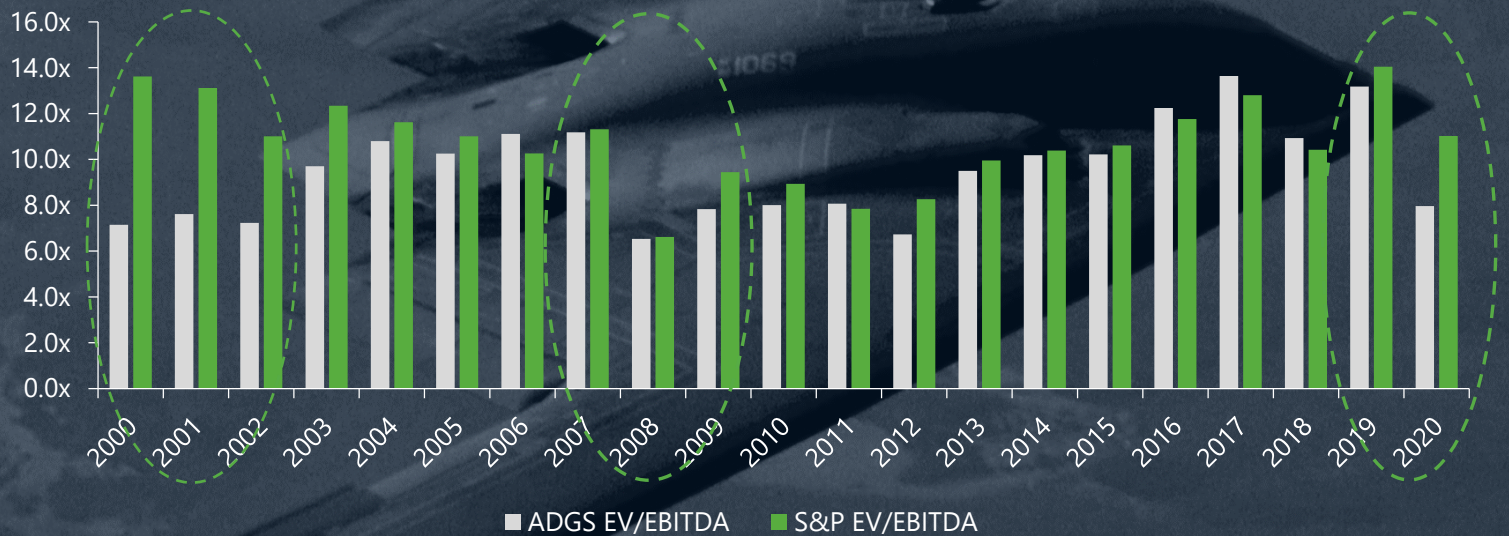
Source: Pitchbook as of 6/30/19

Disclosed M&A Transaction EV/EBITDA Multiples Often Paid by/Acquisitions of, Public Companies



Source: Capital IQ

EV/EBITDA Multiples of ADGS Index vs S&P 500



Source: Capital IQ

Larger transactions have seen a more pronounced effect on multiples, but have rebounded

Multiples on disclosed transactions, which are frequently acquisitions of and by public companies, have been somewhat more volatile, being larger and more closely tied to valuations in the public markets. Nonetheless, the average decline in these multiples over the past two cycles has been less than 2x EBITDA the year after an event and have rebounded quickly the following year.

When it comes to aerospace earnings prior cycles provide little guidance

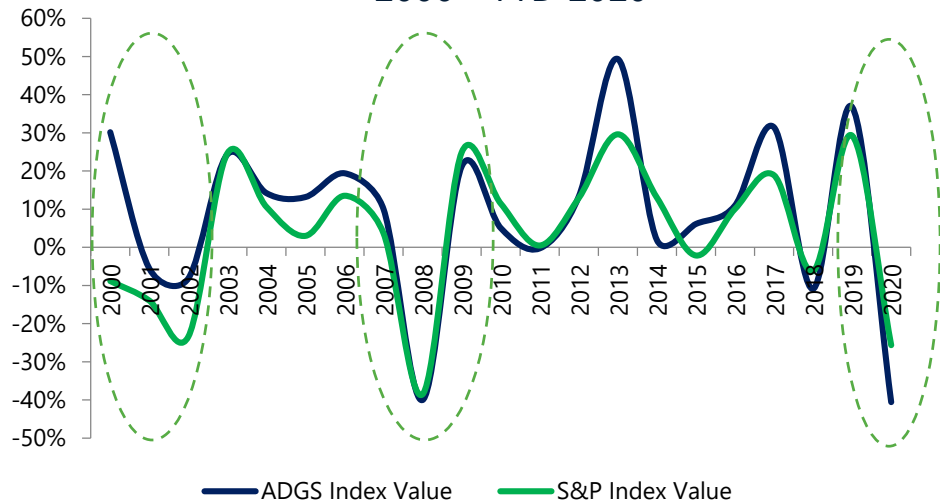
EV/EBITDA multiples of public companies in the A&D (Aerospace & Defense) sector performed in line with the S&P during the great recession. However, in the current situation, the aerospace industry is on the front line, and has been hit particularly hard.

In the dot-com bust of the early 2000s the A&D industry performed strongly relative to the S&P, but earnings suffered the following year as a result of 9/11. The current fallout will last far longer.

Sector earnings growth was declining on the commercial aerospace side prior to the coronavirus, following MAX challenges and slowing worldwide economic growth. Like the pandemic, those factors too will pass, however, they are likely to take longer to overcome and by a financially weaker industry.

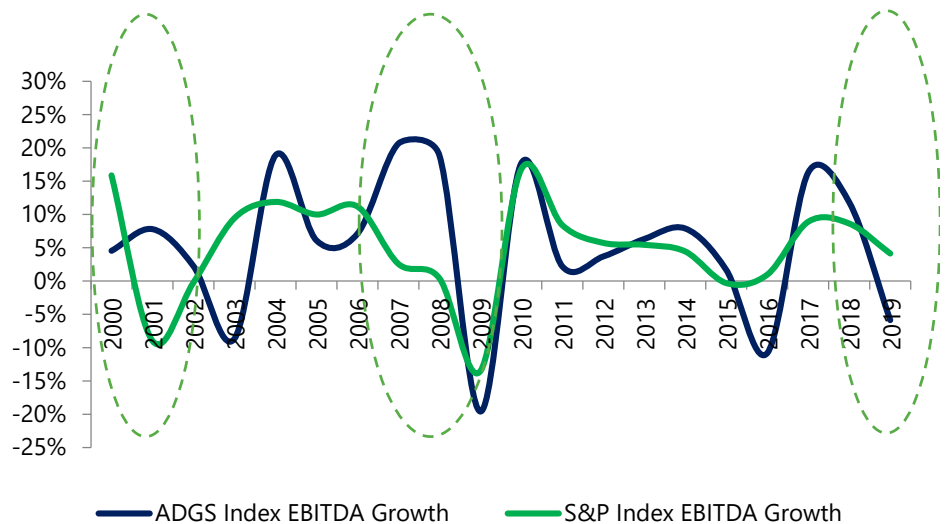
Index Values for ADGS and S&P

2000 - YTD 2020



Source: Capital IQ

Y/Y EBITDA Growth for ADGS and S&P Indices

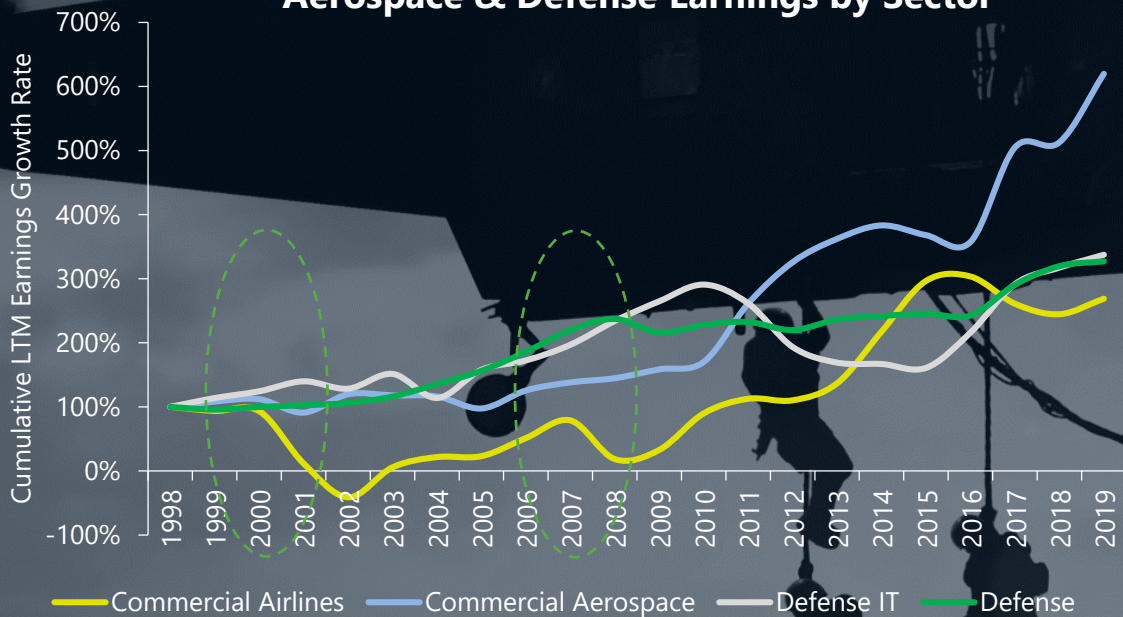


Source: Capital IQ



Military production provided manufacturers some protection through previous downturns, but commercial aerospace grew to a greater share through the recent boom.

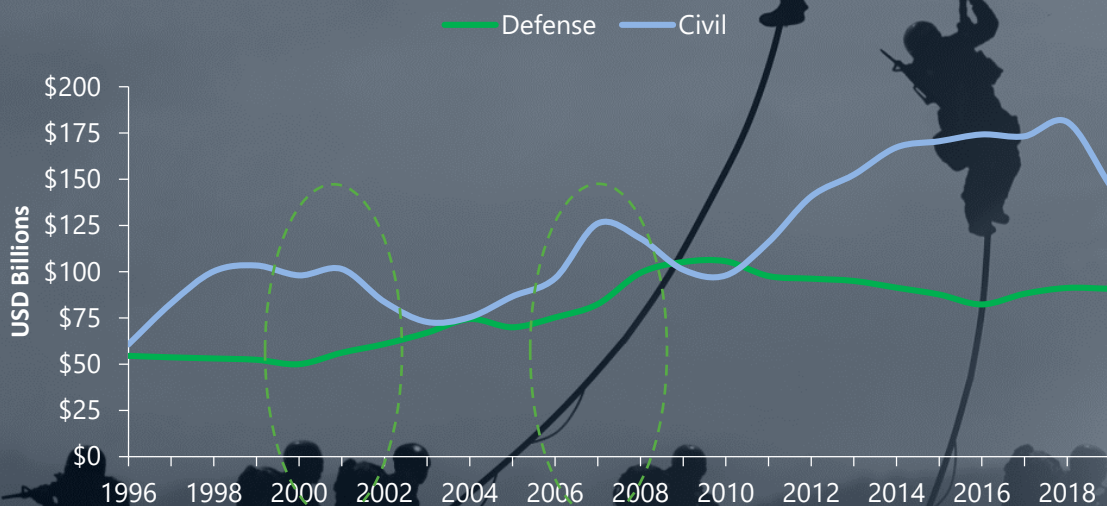
Aerospace & Defense Earnings by Sector



Defense & Government have traditionally provided protection to the industry with earnings streams less affected by the overall economy.

Source: Capital IQ

U.S. Aerospace Shipments Civil vs. Defense



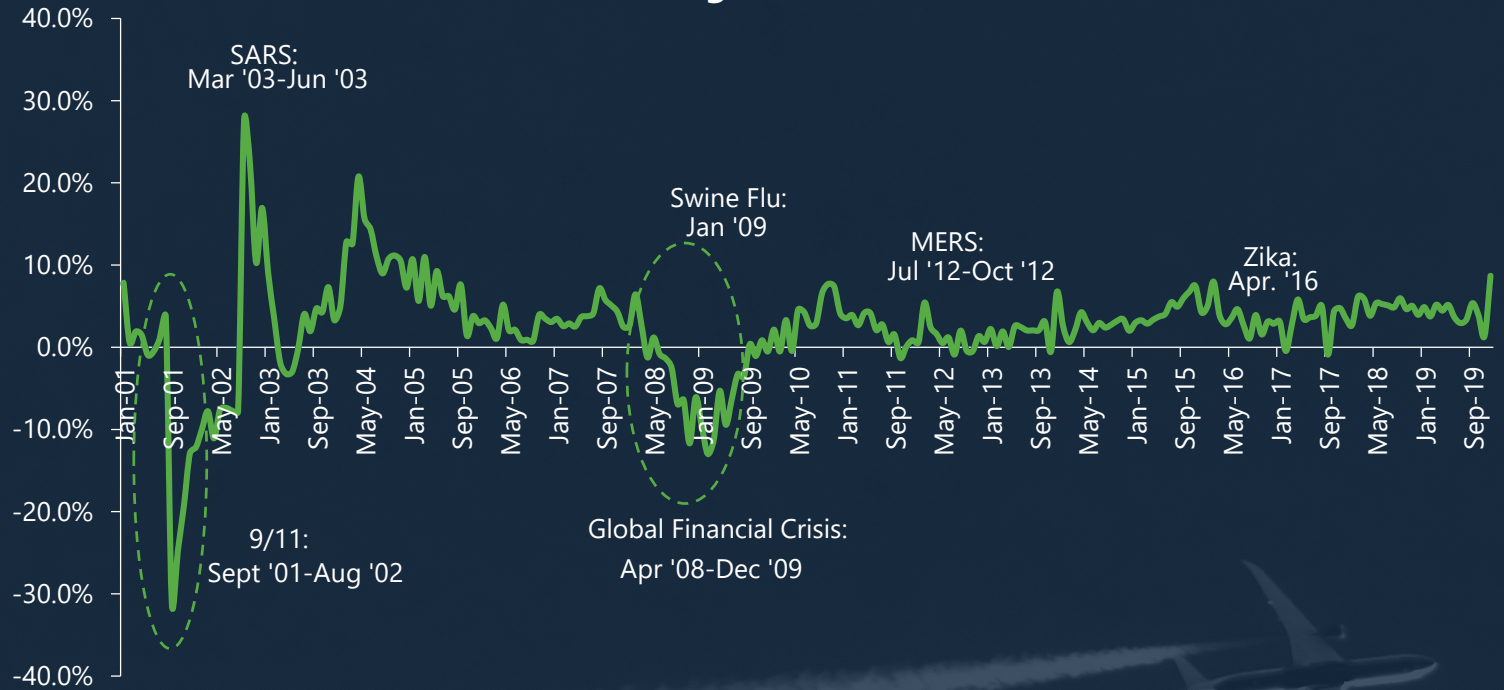
Aerospace industry sales were historically split equally between military & commercial, often offsetting each other through downturns. Production increases through the recent commercial aerospace boom took that split to two-thirds commercial aerospace, likely make this commercial downturn more painful.

Source: U.S. Census Bureau and Aerospace Industries Association (AIA)

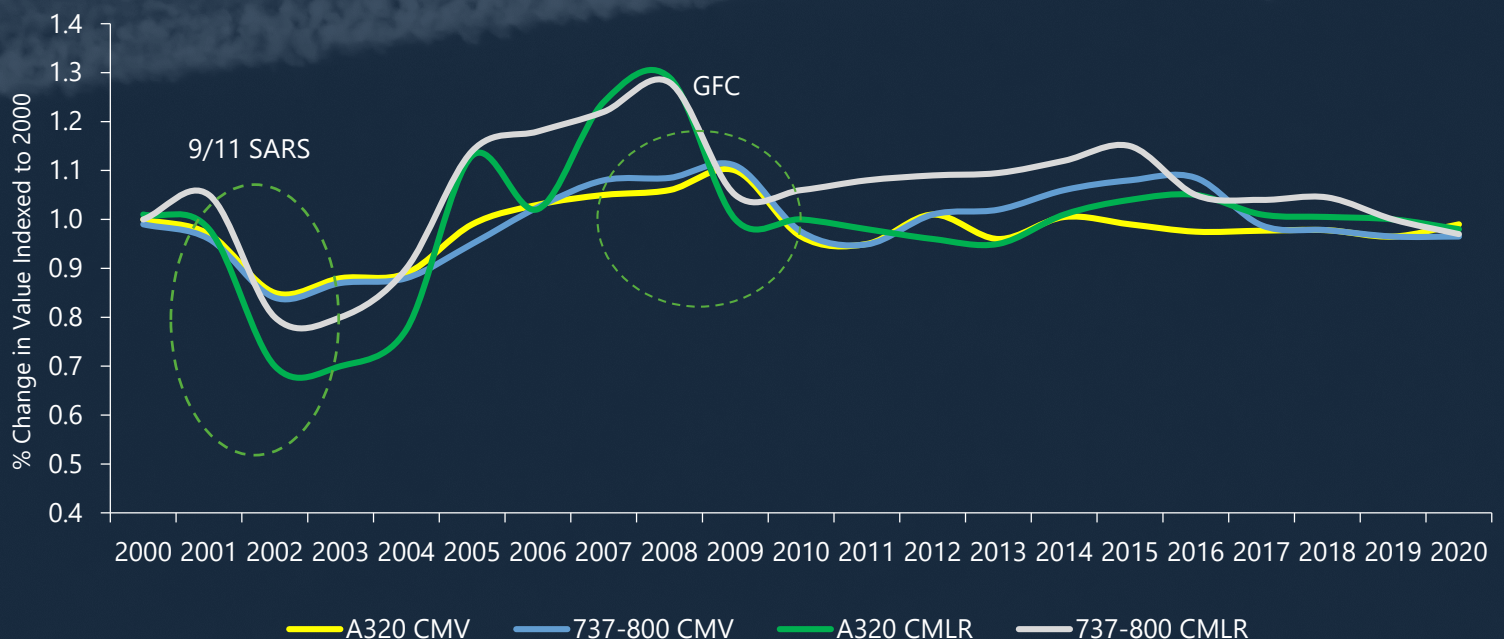
The Airline industry has rebounded quickly from previous shock events, but the effects of economic recessions have taken far longer:

The current downdraft combines both an event driven and an economic impact. The airline industry has typically rebounded quickly (within a couple of months) from previous pandemic or event shocks. Economic recessions, have required far longer, taking a couple of years to recover. The economic impact is also reflected in aircraft values and lease rates which fell by around 20% in previous downturns.

Passenger Miles Traveled



Commercial Aircraft Values and Lease Rates



Source: Bureau of Transportation Statistics

CARES ACT

03

GOVERNMENT
ASSISTANCE AVAILABLE

Responding to COVID-19: U.S. Federal Government 2020 Stimulus (CARES Act)

In a direct fiscal response to the COVID-19 pandemic, Congress and the White House collaborated to pass the Coronavirus Aid, Relief, and Economic Security (CARES) Act on March 27, 2020, with the aim of boosting the U.S. economy with a \$2 trillion relief package - the biggest economic rescue package in U.S. history.¹ Special attention was given to small businesses to stave off near-term hardships for owners and their employees, and to meet expenses related to operating costs.² Already, government agencies have issued contracting vehicles to directly support COVID-related work required for the federal, state and local agencies.³ Governments are also pursuing various other relief efforts.

CARES ACT \$2 Trillion

A&D SPECIFIC APPROPRIATIONS:

**\$46 billion to the severely stressed
Aviation sector**

\$45bn

**\$32 billion aviation worker relief
assistance**

\$32bn

**\$10.5 billion for the DOD and
Defense industry contractors**

\$10.5bn

**\$10 billion for aerospace related
transportation and housing support**

\$10bn

- ▶ **On March 27, 2020, the Federal Government passed the "Coronavirus Aid, Relief, and Economic Security" (CARES) Act.**
- ▶ **This \$2 trillion relief package is the biggest economic rescue package in U.S. history**
- ▶ **Included in the stimulus package is specific funding for both the Aerospace and Defense sectors totaling almost \$100 billion**



TITLE I — KEEPING AMERICAN WORKERS PAID AND EMPLOYED ACT⁴

Sec. 1102. Paycheck Protection Program

- ▶ Appropriated amount: \$349 billion.
- ▶ Overview: Qualifying small business concerns are eligible for federally guaranteed emergency Paycheck Protection Program (PPP) interest-bearing (not more than 4%), non-recourse loans for business interruption because of COVID-19.
 - Loans to help borrowers cover payroll costs (i.e., count only employee earnings <\$100K/ annual salary; domestic-based employees only) and other working capital expenses not already covered by previous federal COVID-19 relief laws.
 - Loans made through 7(a) lenders and other designated institutions.
 - Loans are eligible for forgiveness, but with any unforgiven portion repayable after 10 years with an option for deferral.
 - No pre-payment penalty. No double-dipping from SBA (Small Business Administration) Economic Injury Disaster Loan (EIDL) program. Eligible processing fee limit determined by SBA.
- ▶ Maximum Loan Amount:
 - Lesser of \$10 million, or: (For Existing Small Businesses) = small business borrower's total average monthly payroll for the previous year, excluding comp above \$100K/employee, times 2.5, plus the unrealized share of any 7(a) loan already approved under FY20 budget.
 - Payroll period/seasonal small businesses: either Feb. 15, 2019, or March 1, 2019 – June 30, 2019, at borrower's election.
 - For "Otherwise Eligible Businesses" = small business not in business during the covered period: payroll between Jan.1 -Feb. 29, 2020, times 2.5, plus the unrealized share of any 7(a) loan already approved under federal FY20 budget.

Sec. 1105. Loan Forgiveness

- ▶ Covered Loans. Eligible for loan forgiveness on the PPP loan total provided borrower demonstrates that loan proceeds were used for eligible purposes, including payroll/benefits (excluding employee comp above \$100K); mortgage interest; rent; utilities.
 - "Covered Period" means the eight-week period beginning on date lender originates PPP loan for borrower.
 - Amount forgiven limited to principal amount borrowed.
 - If borrower reduces salaries, number of employees, or both during the covered period, then the loan amount available for forgiveness is reduced by the amount of any reduction in:
 - Number of Employees (45): Calculated by dividing the #/FTEs during the Covered Period by either (a) average #/FTE per month (Feb 15-June 30, 2020); or (b) average #/FTE per month (Jan. 1-Feb. 29, 2020).
 - Salary/Wages: Loan amount available/forgiveness is reduced by the amount of any reduction in total salary or wages of any employee during the covered period that is in excess of 25 percent of the total salary or wages of the employee during the most recent full quarter during which the employee was employed before the covered period.
 - But, if a small business borrower rehires or ends the salary reduction before June 30, 2020, then the small business has eliminated the layoff or salary cuts and its loan amount eligible for forgiveness is not affected.
 - SBA and Treasury may issue regulations that grant de minimis exemptions from these requirements.



TITLE II — ASSISTANCE FOR AMERICAN WORKERS, FAMILIES, AND BUSINESSES⁵

Section 2303. Modifications for net operating losses.

- ▶ The provision relaxes the limitations on a company's use of losses. Net operating losses (NOL) are currently subject to a taxable-income limitation, and they cannot be carried back to reduce income in a prior tax year.
- ▶ The provision provides that an NOL arising in a tax year beginning in 2018, 2019, or 2020 can be carried back five years. The provision also temporarily removes the taxable income limitation to allow an NOL to fully offset income.
- ▶ These changes will allow companies to utilize losses and amend prior year returns, which will provide critical cash flow and liquidity during the COVID-19 emergency.

Section 2303. Modifications for net operating losses.

- ▶ The provision temporarily increases the amount of interest expense businesses can deduct on their tax returns, by increasing the 30% limitation to 50% of taxable income (with adjustments) for 2019 and 2020.
- ▶ As businesses look to weather the storm of the current crisis, this provision will allow them to increase liquidity with a reduced cost of capital, so that they are able to continue operations and keep employees on payroll.

TITLE IV—ECONOMIC STABILIZATION AND ASSISTANCE TO SEVERELY DISTRESSED SECTORS OF THE UNITED STATES ECONOMY⁶

Sec. 4003. Emergency Relief and Taxpayer Protection.

- ▶ This Emergency Stabilization Fund (ESF) backstops the Federal Reserve's 13(3) ability, with up to \$500 billion, to purchase obligations directly from issuers of such obligations for businesses that have not otherwise received adequate economic relief in the form of loans or loan guarantees.
- ▶ The Fed announced its emergency lending authority under Section 13(3) of the Federal Reserve Act to create additional programs to stabilize important financial markets. It announced three facilities: the Primary Market Corporate Credit Facility (PMCCF), the Secondary Market Corporate Credit Facility (SMCCF), and the Term Asset-Backed Securities Loan Facility (TALF).

Sec. 4013. Temporary Relief from Troubled Debt Restructurings.

- ▶ Accounting Standards Relief for Modified Loans. Waives the normal application of GAAP for "financial institutions" from March 1, 2020, until the earlier of December 31, 2020, or 60 days after termination of the public health emergency declared on January 31, 2020 for loans modified (that would otherwise be treated as troubled debt restructurings) as a result of COVID-19, and to loan impairments related to such modifications. (539)
- ▶ The term "financial institution" is yet to be defined by Treasury, but SBIA (Small Business Investor Alliance) has requested BDCs (Business Development Companies) be considered under the definition.

Sec. 4014. Optional Temporary Relief from Current Expected Credit Losses.

- ▶ Accounting Standards Relief. Sec. 4014(b)(1) waives the normal application of GAAP for "insured depository institutions" from March 1, 2020, until the earlier of December 31, 2020, or the date of termination of the public health emergency declared on January 31, 2020. (542)
- ▶ SBIA worked closely with member companies and Members of Congress to expand this section to include all non-bank lenders, but it was not included in the final package. SBIA will continue work with policymakers and regulators on relief for BDCs and their portfolio companies.

As of this writing, for government agency-by-agency COVID-related spending authorities, we note the following highlights:⁷

- ▶ **\$117 billion for Hospitals and Veterans Health Care**
- ▶ **\$45 billion for the FEMA (Federal Emergency Management Agency) Disaster Relief Fund**
- ▶ **\$16 billion for the Strategic National Stockpile**
- ▶ **\$4.3 billion for the Centers for Disease Control**
- ▶ **\$11 billion for Vaccines, Therapeutics, Diagnostics, & Other Medical Needs**

Included in the \$2 trillion stimulus package is specific funding for both Aerospace and Defense sectors totaling almost \$100 billion:

AEROSPACE:

- ▶ **ECONOMIC STABILIZATION TO SEVERELY STRESSED AVIATION SECTOR – \$46 BILLION**
 - \$25 billion for passenger air carriers, ticket agents, and Part 145 MRO (Maintenance, Repair, & Operations) companies (additional authorized amounts detailed under Sec. 4112).
 - \$4 billion for air cargo carriers (additional amounts also under Sec. 4112).
 - \$17 billion for “businesses critical to maintaining national security,” which could include support for Boeing.
 - \$454 billion for loans or loan guarantees to other eligible businesses, states, or municipality.
- ▶ **AVIATION WORKER RELIEF ASSISTANCE – \$32 billion**
 - \$25 billion for employees of passenger airlines.
 - \$4 billion for employees of cargo airlines.
 - \$3 billion for defined employees of aviation contractors (i.e. catering functions, etc.).
 - Terms and conditions include: refraining from involuntary furloughs or reduction in pay rates; refraining from purchasing equity securities; and compensation caps for defined periods of time.
- ▶ **AEROSPACE-RELATED TRANSPORTATION AND HOUSING SUPPORT – \$10 billion**
 - \$10 billion for airport grants.
 - \$25 million for FAA (Federal Aviation Administration) “Operations” to “prevent, prepare for, and respond to coronavirus”.

AEROSPACE GENERAL PROVISIONS:

The bill carries the following provisions:

- ▶ **Section 4005:** Allows the Secretary of Transportation to “hold in” air service provided by any air carrier receiving assistance from this act through 1 March 2022.
- ▶ **Section: 4007:** Suspends aviation excise taxes until January 1, 2021 including passenger ticket taxes, segment fees, fuel taxes and other related normal course aviation excise taxes.
- ▶ **Section 4017:** Authorizes authorities of the Defense Protection Act (DPA) for two years.



DEPARTMENT OF DEFENSE – \$10.5 BILLION:

- ▶ DEFENSE INDUSTRIAL BASE – \$2.45 billion
 - \$1.45 billion for the Defense Working Capital Funds as the Defense Logistics Agency and military services work to mitigate the impact of COVID-19 on production lines, supply chain, military depots, and labs; and
 - \$1 billion for the Defense Production Act to increase access to materials necessary for national security and pandemic recovery.
- ▶ DEFENSE HEALTH PROGRAM – MEDICAL CARE AND MEDICAL COUNTERMEASURES – \$1.8 billion
 - To address increased health care cases for eligible military members, dependents, and retirees; and to procure additional medical equipment; as well as for the procurement of physical protective equipment for medical personnel and disease response.
- ▶ DEFENSE HEALTH PROGRAM – MILITARY HEALTHCARE SYSTEM DIRECT CARE CAPACITY – \$1.6 billion
 - For the expansion of military treatment facilities to ensure maximum capacity of the direct care system, and to procure expeditionary hospital packages.
- ▶ DEFENSE HEALTH PROGRAM – DIAGNOSTICS – \$415 million
 - For the development of vaccines, antivirals, 24/7 lab operations, and the procurement of diagnostic tests.
- ▶ NON-MEDICAL PROTECTIVE EQUIPMENT AND OTHER SUPPLIES – \$627.8 million
 - For the procurement of pharmaceuticals and physical protection equipment by the military services for installations, ships, first responders; and
 - For biohazard mitigation.
- ▶ NATIONAL GUARD SUPPORT FOR DOD AND THE STATES AND TERRITORIES – \$1.5 billion
 - For emergency deployments of Guard personnel.
- ▶ DOD OPERATIONS – \$713.6 million
 - For medical supplies and physical protection equipment on installations and ships;
 - For deployments of the USNS COMFORT and USNS MERCY; and
 - For increased operations and deployment schedules.
- ▶ IT EQUIPMENT – \$300 million
 - To procure IT equipment and increase bandwidth.
- ▶ DEFENSE HEALTH PROGRAM PRIVATE SECTOR CARE – \$1.1 billion
 - For additional shortfalls in Defense Private Sector Care.
- ▶ OFFICE OF INSPECTOR GENERAL – \$20 million
 - For additional personnel to conduct audits and evaluations of COVID-19 emergency funding.



USNS Mercy Navy hospital ship leaves San Diego for the Port of Los Angeles on March 23, 2020.



GENERAL PROVISIONS:

The bill carries the following provisions:

- ▶ Section 13003: Removes \$1 billion cap on advance billings for Defense Working Capital Funds to improve DOD flexibility in responding to COVID-19 effects and ensure supply chain stability.
- ▶ Section 13004: Removes incurred cost limit on progress payments under undefinitized contract actions to improve cashflow to companies in response to COVID-19 effects.
- ▶ Section 13005: Removes restrictions on DOD usage of undefinitized contract actions for COVID-19 response, consistent with other emergency response scenarios.
- ▶ Section 13006: Allows the DOD to waive certain restrictions on the usage of other transaction authority in contracts to improve defense industrial base liquidity, particularly among small businesses, in its response to COVID-19.
- ▶ Section 13007: Enables the President to extend the appointment of several senior military officials, whose appointments are scheduled to expire during COVID-19 crisis, ensuring continuity of senior military leadership.

LENDERS DUST OFF RECESSION PLAYBOOK

04

MIDDLE MARKET
LEVERAGED FINANCE
IN THE DAYS OF
COVID-19

The Debt Advisory Group of Capstone Headwaters spoke with 50+ middle-market lenders in the days following the COVID-19 shutdown to gauge their current viewpoints on in-process financings and prospective new deals. Provided below is a summary of the commentary that we have gathered from lenders. Given the very fluid environment, their viewpoints are likely to evolve.

Key themes we are hearing include:

- ▶ **Change in Mindset:** The credit market is now viewing a global recession as a relative certainty and this will likely guide their actions for the foreseeable future.
- ▶ **Primary Focus:** Lenders right now are focused on protecting their portfolio instead of growing their portfolio and are assessing real-time the current health and exposures of their portfolio of borrowers with respect to CV-19, the drop in oil prices, and the coming recession. Their analysis is granular and going company by company. Some of our borrower clients have been asked to prepare detailed downside models (focus on fixed/variable cost structure, contingency plans for headcount reductions, OpEx cuts, and the like) to help in that evaluation process.
- ▶ **Premium on Liquidity:** Given all the unknowns, companies are now fully drawing-down their cashflow revolvers and building up their cash liquidity positions as a precautionary measure. We believe that most sponsors at this point have instructed their portfolio companies to do so. In the weeks ahead, we will likely begin to see borrowers take actions to further maximize their liquidity and financial flexibility via slowing vendor payments, making expense reductions, seeking a covenant holiday and/or temporary relief of near-term loan principal amortization payments.



We are encouraging borrowers to: maximize liquidity, engage with existing lenders, and prepare materials including scenario planning, sensitized models, cost analysis and mitigation plans.

- **New Deal Landscape:** Nearly all lenders have said they are “open for new business” (in theory), but will be exceedingly cautious and careful with respect to those opportunities they truly chase. By and large, lenders have said they are continuing forward on deals that are nearing completion and are standing by the commitments they have already extended. For proposals that were already in the hands of borrowers/PEs, pricing will likely be adjusted upward (if not withdrawn completely).

When the market begins to open up, lender’s new-deal focus will be on counter-cyclical sectors and credits with (i) first-lien security, (ii) strong PE sponsorship, and (iii) attractive LTVs. Few lenders will be open to assuming any syndication risk - they will only commit to their hold level but nothing more. Some lenders have recently raised new funds and will remain under pressure to get those funds invested despite the downdraft – and will accordingly be fairly opportunistic. One large lender had lent ~\$2 billion during Q4 2008 and it became one of their best performing vintages.

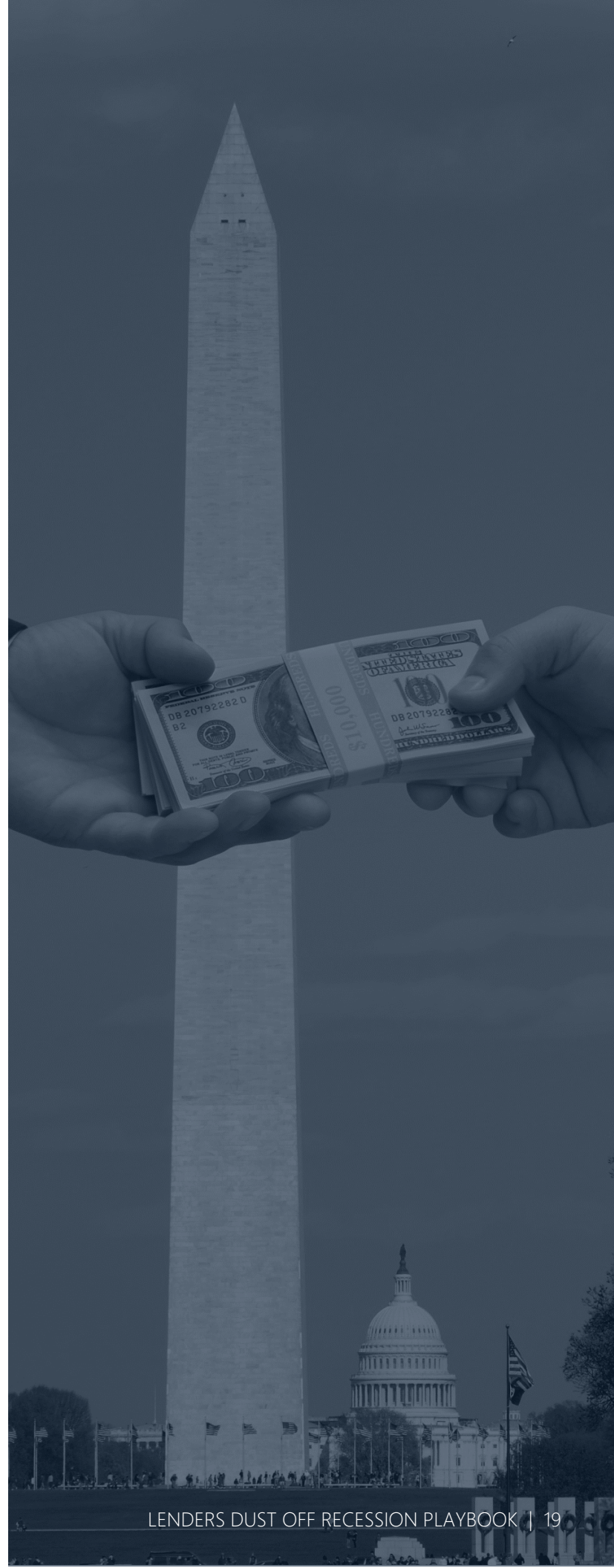
- **Expectations on Deal Structures:** There are very few truly new leveraged loans being launched in this market anytime soon. As a result, there are few data points readily available to gauge lenders’ real-time receptivity to new deals. However, once those deals begin to appear, we expect lenders will grab their recession playbook from the shelf, dust it off, and do what they have always done before. We expect to see the following:

Credit capital will become precious and be allocated amongst opportunities in the following order:

- **First**, to support the liquidity needs of existing portfolio companies.
- **Second**, to invest/lend deeper into companies they already know well (e.g., buy positions of other lenders in syndicates of current borrowers).
- **Third**, to support solid sponsors pursuing LBOs (leveraged buyouts) of fundamentally good businesses in good sectors, likely at attractive valuations
- **Fourth**, to pursue other opportunistic situations that offer good structures, good alternative exit scenarios (i.e., asset coverage), and good risk-adjusted pricing

For new deals:

- Leverage multiples will go down, especially for tougher sectors and situations
- Pricing will certainly go up, but will be very company/sector specific. Several lenders suggested a rise of 1%-2% in the near-term environment
- Diligence processes will slow down and become highly focused on understanding the downside



- ▶ **Amendments Will Come at a Price:** As one lender said in the last downturn: “An amendment-request is a terrible thing to waste.” In return for covenant and amortization relief, lenders will leverage those requests to mark-to-market Libor spreads, tighten up covenant headroom, reset ECF (excess cash flow) sweeps, and make other lender-friendly changes.
- ▶ **The Secondary Market Will Impact The Middle Market:** Some lending capacity will leave the new-deal (primary) market as some larger credit funds pursue better risk-adjusted returns by buying loans/bonds in the secondary market at favorable discounts in lieu of making direct loans. As a result, we expect to hear variations of:

“Why should we spend the effort to pursue your small private debt financing at Libor + 6% when today I can buy into the liquid, rated loans/bonds of the much larger industry leader at 85% of par value, effectively yielding Libor + 9% (at those prices)?”

This will likely affect the larger deals more than the lower middle-market where lenders tend to be more relationship-oriented and buy-and-hold in nature.
- ▶ **Some Lenders Will Get Sidelined:** Some high-market share lenders have consistently won mandates by being aggressive on both leverage and pricing – factors that may soon lead to material portfolio losses and the sidelining of their new loan origination efforts. In particular, we think many BDCs (a growing source of credit in our market) may lose their appetite for new deals.
- ▶ **Our Current Suggestions:** During this market slowdown, we are making several suggestions to prospective borrowers:
 - **Maximize liquidity** (per above)
 - **Engage early and often** with existing lenders on an open-book basis as lending terms may need to be revised soon (covenants, amortization, ABL over-advances, etc.)
 - **Spend time preparing well-crafted marketing materials** (CIP, sensitized lender models, fixed/variable cost analysis, CV-19 mitigation plan, etc.)
 - **Track the data** that will convincingly support the eventual **“COVID-19 EBITDA Addback”**
 - **Prepare to be first in line** once the market re-opens (which it will)

HOW WE CAN HELP

Capstone Headwaters has considerable experience and real-time insight in middle market leverage finance and can assist both sponsors and private company owners in securing debt capital from new lenders and/or negotiating amendments with current lenders.

Please contact us for real-time updates on current market conditions or if we can be of any help.

SPECIALTY M&A

Raising Debt & Equity Capital
Distressed Sale
Chapter 11 & §363 Sales

CORPORATE RESTRUCTURING

Bankruptcy & Reorganization
Creditor & Debtor Advisory
Solvency Opinion

TURNAROUND CONSULTING

Cash Flow Forecasting
Interim Management
Contingency Planning

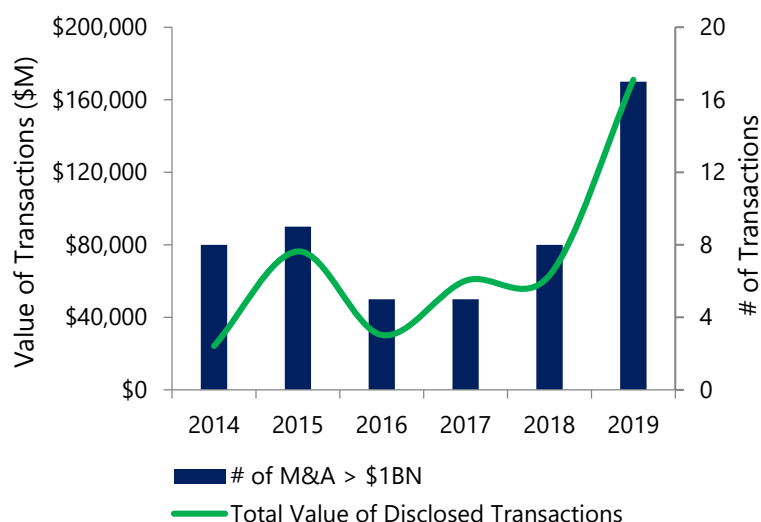
MERGERS & ACQUISITIONS UPDATE

05

2019 SAW STEADY LEVELS OF M&A ACTIVITY AND A SURGE IN HIGH VALUE TRANSACTIONS

The value of disclosed sector transactions increased almost threefold (2.7x) to \$171 billion and included the announced \$93 billion UTC/Raytheon merger and the completed \$19 billion L3 Technologies/Harris Corporation merger. In 2019, there were 17 transactions valued over \$1 billion versus eight in 2018.

Value of A&D Sector Transactions >\$1B



Source: Capital IQ

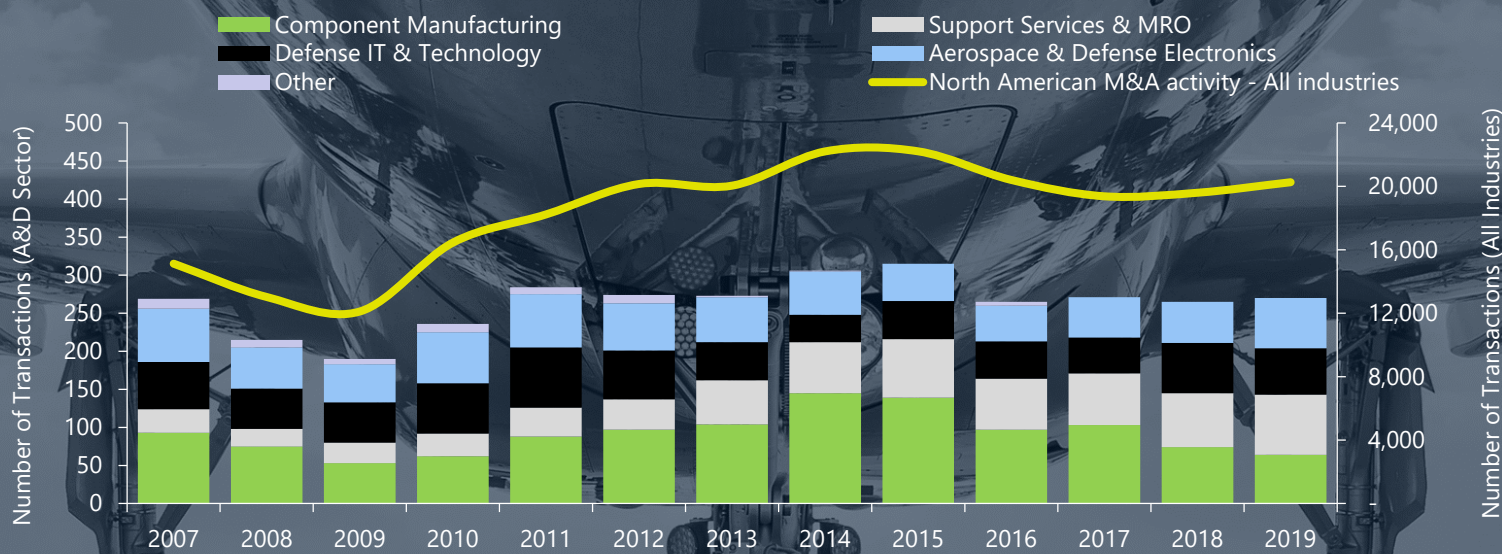
Main themes of recent M&A activity can be summarized as:

- ▶ **Number of sector transactions remained broadly stable – increasing 1% (compared with a 3% increase in M&A across all industries).**
- ▶ **Value of transactions tripled – to \$171 billion compared with \$63 billion in 2018 and a \$51 billion annual average over prior five years.**
- ▶ **Number of transactions over \$1 billion doubled - to 17 vs eight in 2018 and seven on average over the prior five years.**
- ▶ **Surge in value of transactions is typical of later stages in an M&A cycle. Transaction values increased 17% in 2000 and swelled 42% in 2007 over the prior year.**
- ▶ **Merger of UTC and Raytheon was largest single transaction at \$93 billion.**
- ▶ **Majority of strategic acquisitions were a combination of commercial and defense businesses. While the UTC/Raytheon combination was a posterchild for diversification of revenue streams, with defense spending less dependent on economic cycles, it was not alone.**
- ▶ **Subsegments of A&D Electronics and MRO showed the strongest increase in M&A activity, while component manufacturing and defense IT declined.**



The number of North American A&D transactions remained broadly flat in 2019, increasing 1%. This compares with the 3.4% increase in the overall number of transactions in North America.

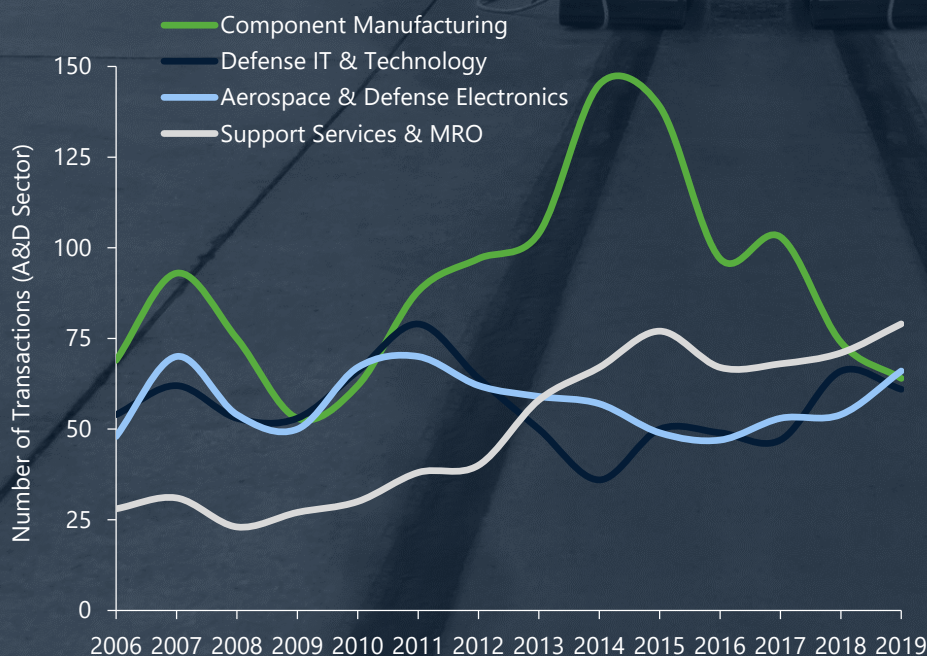
North American Aerospace and Defense M&A Activity



Source: Company press releases and financial information provided by Capital IQ

Transactions within A&D Electronics experienced robust growth of 19% year-over-year (YOY) followed by a solid uptick in transactional activity in Support Services & MRO, which increased 9% compared with 2018. Component Manufacturing transactions continued a downward trajectory from the extraordinary peaks witnessed in 2014, while Defense IT & Technology transactions declined 8% following a banner year of growth in 2018.

M&A Activity by Subsector



Source: Company press releases and financial information provided by Capital IQ

Within subsegments:

- ▶ **Component Manufacturing** transactions fell 12% in number and accounted for 24% of total transactions. They continue to pace 50% below their peak level in 2014 when consolidation was at a high. After years of consolidation the decline was not due to a lack of demand for acquisition targets, but rather a shortage of supply.
- ▶ **A&D Electronics** posted strong growth of 19% and accounted for 24% of sector transactions.
- ▶ **Support Services & MRO** transactions rose 9% and at 29% accounted for the most sector transactions.
- ▶ **Defense IT & Technology** transactions fell 8% year-over-year following a 50% increase in 2018 and accounted for 23% of sector transactions.

BY SUBSECTOR

Component Manufacturing: Includes mechanical, engine and structural components, as well as interiors and composites. Buyers were primarily PE or PE-owned companies as they continued to consolidate the supply base. A notable transaction we advised on during the year was the sale of advanced composite continual process innovator CirComp, in their acquisition by composite 3D woven leader, Albany, adding to their pioneering capabilities and products.

A&D Electronics: Growth in the number of transactions demonstrated the expanding importance of electronic systems across a breadth of areas such as flight controls, unmanned systems, and satellites. Transactions predominantly comprised strategic players using acquisitions to expand and build out their capabilities and was the subsector with the lowest percentage of private equity buyers.

MRO & Support Services: Includes component repair; overhaul & test; supply chain management & distribution; and flight services. Almost half acquirers were PE, attracted by the underlying growth of expanding flight hours and fleet size.

Defense IT & Technology: Comprises software and IT services and was increasingly dominated by cyber defense and security. The broader trend of greater comfort and interest by private equity in tech overall was seen as PE accounted for a third of subsector acquisitions.

PRIVATE EQUITY BECAME INTEGRAL TO THE SECTOR

Acquisitions by PE or PE-owned firms increased again in 2019, further demonstrating the extent to which the PE industry has become integral to the sector.

- ▶ Private equity accounted for 42% of sector acquisitions in 2019. This compares with 38% in 2018 and an average of 31% of acquisitions over the last ten years.
- ▶ The subsector with the highest private equity involvement was Component Manufacturing, where 57% of acquisitions were by private equity or private equity-owned companies.

North American Aerospace & Defense M&A Activity by Buyer Type



Transactions where target is headquartered in U.S. or Canada.
Sources: Company press releases, certain information taken from Capital IQ

Component Manufacturing continued to attract PE during the year due to:

- ▶ Growth forecasts in commercial aerospace and visibility by aircraft platform.
- ▶ The potential for further ongoing consolidation to redress the balance of an airframe duopoly powered by a handful of engine makers.

Support Services & MRO PE interest followed the more traditional themes of:

- ▶ Steady growth in aftermarket driven by fleet type and flight hours.
- ▶ Diversity of customers.
- ▶ Low capital expenditures.
- ▶ Opportunities for consolidation.

The spread in valuation multiples between those paid for small and large businesses was a significant driver of PE interest, with investors benefiting from multiple arbitrage by buying several smaller companies purchased at lower valuations and combining them to create a larger business sold at a higher multiple. Increased interest in larger businesses was consistent with PE trends overall, as capital available for investment reached new highs on increased fund raising, larger average fund sizes, and fewer smaller funds.

To recap how things have changed with private equity in the current coronavirus climate and how they have stayed the same:

- ▶ PE capital seeking investment remains at record highs. Although we expect a slowing of new capital raised as a result of the current crisis, they have plenty of funding to be going on with. In the short term, they will focus on the health of their portfolio companies and seek investments for special situation funds, but it will not be long before they turn back to new investment opportunities in a market where there are few sellers.
- ▶ The investment thesis of long term growth in aviation will likely resume in time. However, PE owners are learning the lesson company founders understood years ago: how quickly orders and backlog can evaporate.
- ▶ The spread on multiple arbitrage is likely to narrow. Larger businesses have seen the greatest multiple expansion due to availability of debt and private equity, and some pullback is to be expected.

In what now seems another world, the number of 2019 M&A sector transactions remained broadly stable as their value soared, increasing almost threefold over previous levels.

In a down market seller motivations shift to: a need to satisfy cash requirements, the desire to avoid pressures of business ownership through another downdraft, and concerns that business simply is not fun anymore.



FOUNDERS WERE STILL TOP SELLERS

Founders accounted for 42% of all sellers in 2019, with an uptick in corporations selling. Private equity remained relatively stable at 18% of the seller pool.

For management teams of founder-owned firms remaining with the business, new PE ownership typically means: managing under a debt burden; greater pressure for growth to deliver the goals envisioned by the buyer; and increased process and structure around decision making.

Changing Motivations for Founders Pursuing a Sale

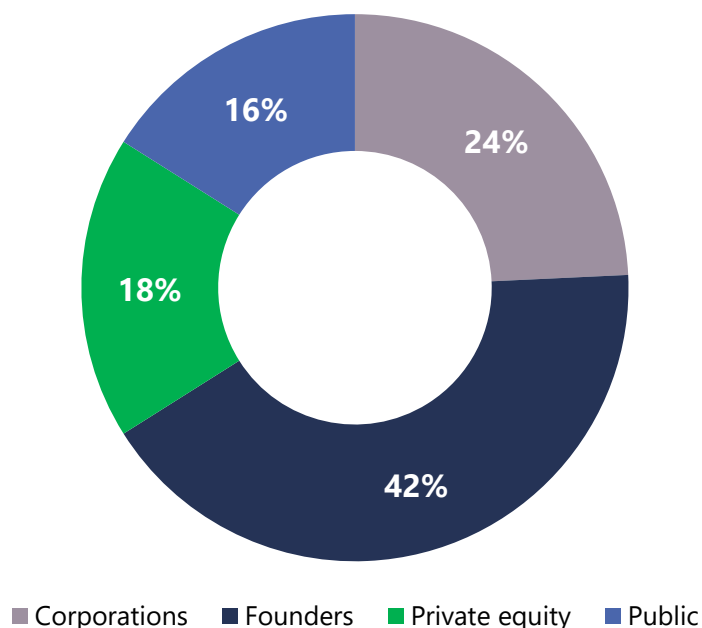
Down Market

- ▶ Need to satisfy cash requirements.
- ▶ Wanting to avoid the pressures of owning a business through another downdraft.
- ▶ Business simply isn't fun anymore

Buoyant Market

- ▶ Approaching retirement age or a shift in personal priorities away from the business.
- ▶ Business has grown to a point where the financial demands of continuing to support growth in a capital-intensive industry become ever larger, and the business is simply no longer suitable for individual ownership. The capital required to take a business from \$75 million to \$150 million is very different from doubling a \$15 million company, particularly with the perspective of continuing to risk everything when personal financial goals have otherwise been met.
- ▶ The business has reached a size where selling is a financially meaningful life-changing event, while building the business further would not materially change lifestyle. There is only so much money you can spend!

Sellers of North American A&D Businesses By Ownership Type, 2019



*Transactions where target is headquartered in US or Canada
Sources: Company press releases, certain information taken from Capital IQ*



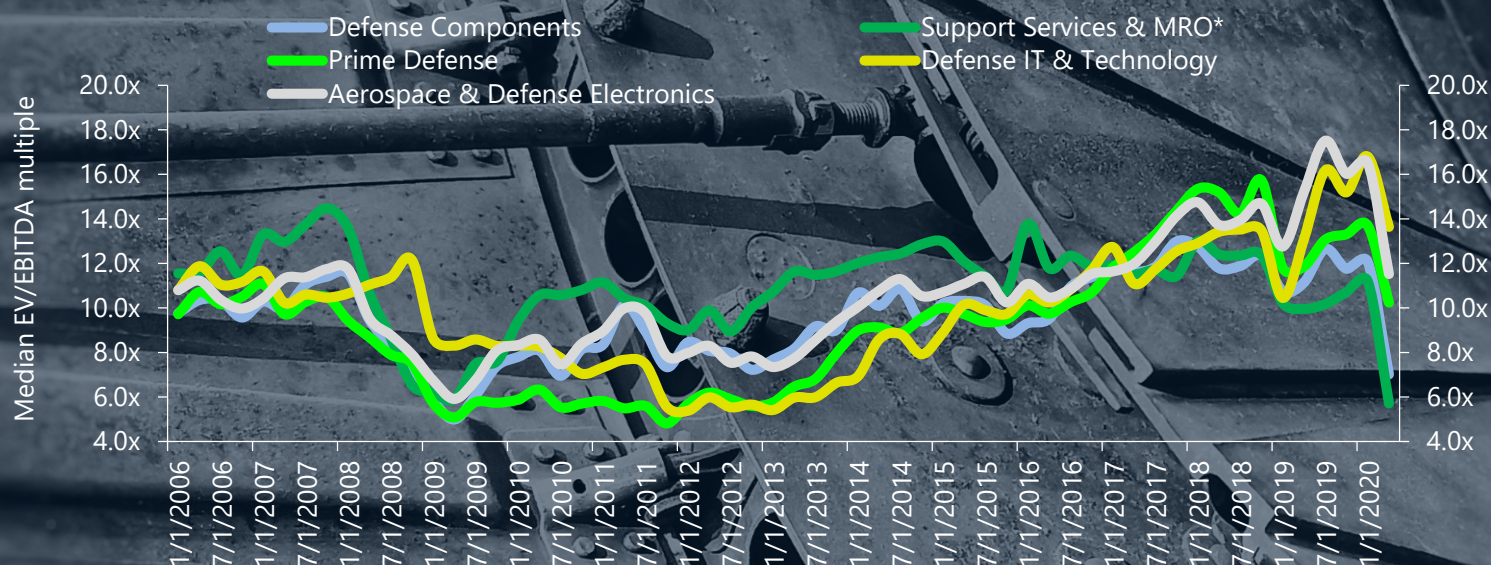
Steady Public Company Values

Our public company Aerospace & Defense Enterprise Value Index rose 35% in 2019 compared with a 30% increase for the S&P. A&D public EV/EBITDA valuation multiples expanded to 13.7x during the year on strong 18% EBITDA growth. Since then, multiples have collapsed in the expectation of falling earnings. As of writing values declined by 31% from year end with multiples of 9.5x. This compares to a 16% decline in values to 11.2x multiple for the S&P overall. By way of context, in 2012 prime defense companies traded at enterprise values as low as 5.6x EBITDA in the public markets.

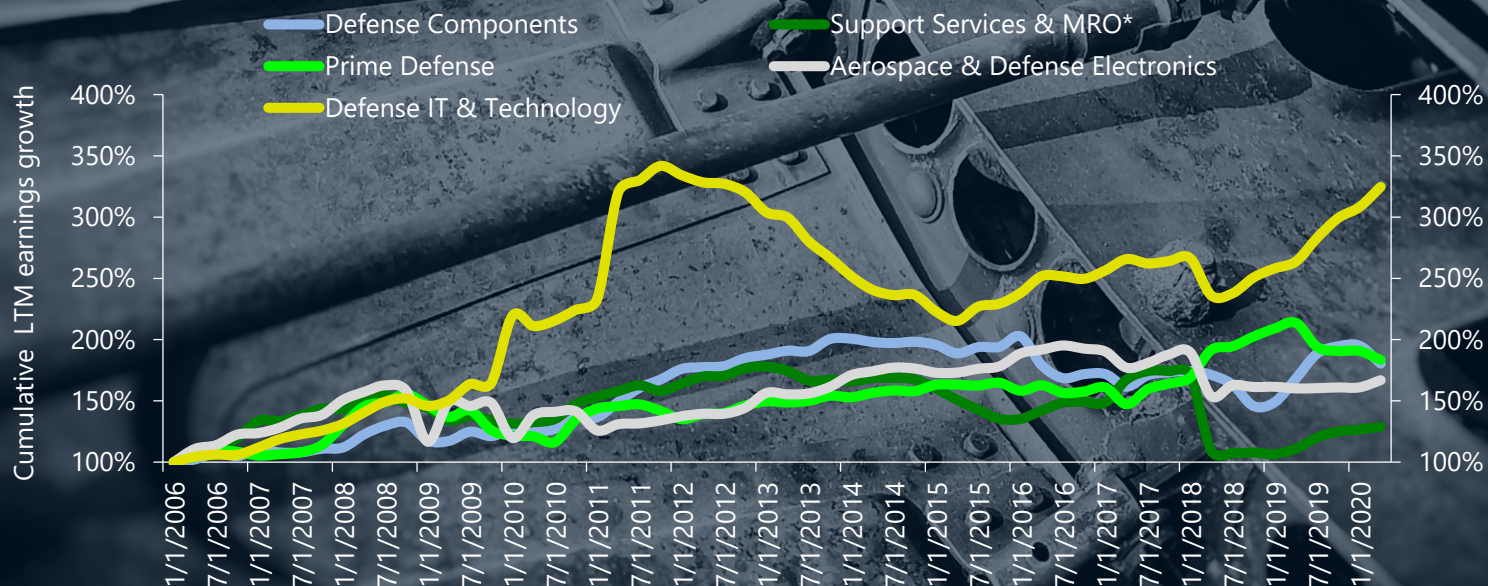
By Subsector in Public Markets

- ▶ **Prime Defense** ended 2019 trading around 13.7x EBITDA and has since fallen to 9.5x.
- ▶ **Support Services & MRO** traded around 11x EBITDA at the year end. It has since fallen to 6.0x.
- ▶ **Component Manufacturing** ended the year trading around 12.1x EBITDA and has since fallen to 6.5x.
- ▶ **Defense IT and Defense Electronics** were trading around 16.5x EBITDA at the year end. It has since fallen to 11.2x.

Aerospace & Defense Public Company Valuation Multiples by Sector



Aerospace & Defense Public Company Earnings by Sector



M&A TRANSACTION MULTIPLES

In private M&A, transaction size continued to be a significant factor in sector valuation in 2019, with multiples on large transactions typically twice those of smaller ones. Full public market valuations, private equity capital seeking investment, and debt availability were contributing factors.

Concerns grew during the year about the MAX coming back on-line. But with Boeing continuing to build for inventory, it was not until production stopped that effects on the supply chain really started to be felt.

For transactions of the Aerospace & Defense sector overall (deals since 2016):

- ▶ Under \$100 million took place around 8-9x EBITDA.
- ▶ Between \$100 million and \$1 billion traded around 11-13x EBITDA.
- ▶ Above \$1 billion were a touch above 14x EBITDA.

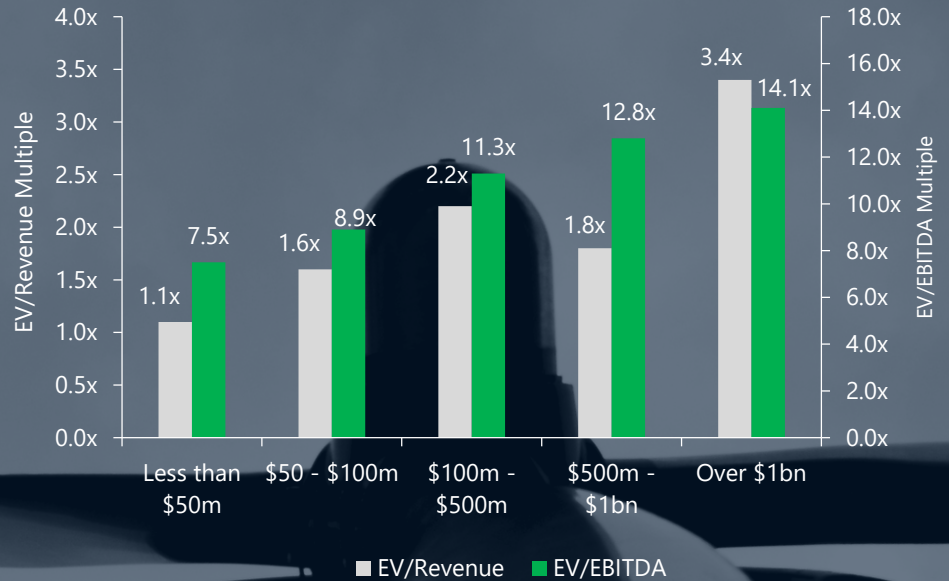
Aerospace & Defense Component Manufacturing transactions show a similar trend (deals since 2016):

- ▶ Under \$50 million took place around 6x EBITDA.
- ▶ Between \$50-100 million were 8x EBITDA.
- ▶ Between \$100 million and \$1 billion traded around 11x EBITDA
- ▶ Over \$1 billion hovered close to 15x EBITDA.

Data above combined for years 2016-2019, using disclosed multiples on an unadjusted basis and typically feature acquisitions by public companies.

Aerospace & Defense Transactions

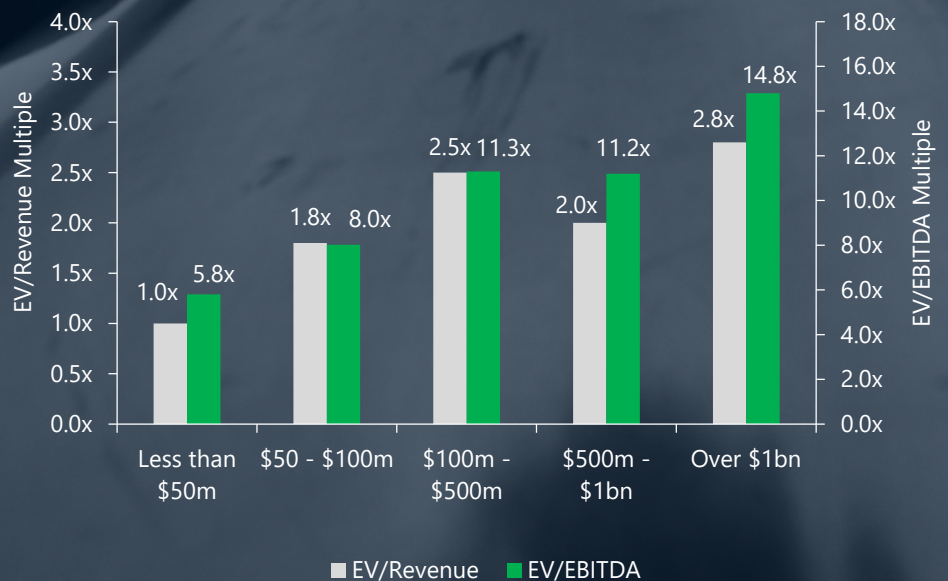
Enterprise Multiples by Size: 2016-2019



Source: Capital IQ

Component Manufacturing Transactions

Enterprise Multiples by Size: 2016-2019



Source: Capital IQ

Concerns grew during the year about the MAX coming back on-line, but with Boeing continuing to build for inventory, it was not until production stopped that effects on the supply chain really started to be felt.

Average Business Services & Manufacturing EV/EBITDA Multiples



Multiples paid by private equity on an adjusted basis reported by GF Data for Business Services and Manufacturing sectors since 2017 can be summarized as:

- ▶ 6x EBITDA on transactions between \$10-50 million.
- ▶ 8x EBITDA on transactions between \$50-100 million.
- ▶ 9x EBITDA on transactions between \$100-250 million.

In the current environment, the outlook for future earnings is uncertain for many companies, growth rates have slowed and risks have increased. While this suggests lower transaction multiples going forward, the impact is likely to be far greater on large businesses more closely tied to the public markets and where multiples had expanded most. The front section of this report discusses how relatively stable transaction multiples have been for smaller private businesses. It is earnings themselves which are the far bigger variable.

Multiples paid in acquisitions by private equity groups across Manufacturing and Business Services, showed how multiples increased in recent years, particularly in the \$100-250 million size where they rose by over one turn of EBITDA.

While significant, size is only one factor impacting M&A valuations:

- ▶ Arithmetic outlined by valuation theory, simply comes down to: expected cash earnings growth rate; and the likelihood those earnings will be achieved (risk).
- ▶ To this we add the practical elements of: financial advantages available to the buyer as a result of acquisition; and the strength of process/ competition generated to encourage the buyer to pay for those synergies.

These value driving considerations are also expressed as:

- ▶ Growth prospects and quality of the business, management and equipment.
- ▶ Customer diversification or dependency, and contracts and programs that the company benefits from, particularly the portion of revenues which may be generated from small business or other set aside contracts, compared with competitively awarded prime contracts.
- ▶ Product technology & innovation, and the strategic value of a target's capabilities and offerings to an acquirer.

LARGE TRANSACTIONS SOAR

The value of disclosed sector transactions tripled in 2019 to \$171 billion compared with \$63 billion in 2018 and a \$51 billion average over the previous five years. The increase was broad and not simply confined to the Raytheon/UTC merger: the number of transactions over \$1 billion doubled - to 17 vs. eight in 2018 and seven on average over prior five years. Such a surge in value of transactions is typical of later stages in an M&A cycle: transaction values across all industries increased 17% in 2000 and swelled 42% in 2007 over the prior year.

Top Transactions:

- ▶ Raytheon and United Technologies Group shareholders approved its \$93 billion behemoth merger of equals in October 2019 and the deal closed in April 2020. The deal brings together four business units. Two are from UTC: jet engine maker Pratt & Whitney, with 2019 sales of \$21 billion; and Collins Aerospace, with sales of \$22 billion. Raytheon brings intelligence, space and airborne systems, which posted sales of \$18 billion; and integrated defense and missile systems, with sales of \$16 billion. The price tag implies 3.3x LTM Revenue and 23.1x LTM EBITDA.
- ▶ The completion of the L3 Harris merger for \$19 billion or 13.8x EBITDA merger creates a powerhouse in A&D communications.
- ▶ The completion of Marubeni Corp. (TSE:8002) and Mizuho Leasing Co.'s (TSE:8425) acquisition of aircraft lessor, Aircastle Limited, in March for \$7.4 billion, or 14.4x EBITDA.



\$1-5 Billion Transactions Include:

- ▶ Carlyle Group's acquisition of StandardAero for \$5 billion. The Company had owned the MRO provider previously and sold to Dubai Aerospace in 2007.
- ▶ Advent International's acquisition of UK-based defense contractor, Cobham for \$5 billion, or 14.9x EBITDA.
- ▶ Transdigm's acquisition of Esterline Technologies for \$4 billion, or 13x EBITDA, to expand its proprietary and sole source content platform for Aerospace and Defense sectors.
- ▶ BC Partners acquisition of security service provider, GardaWorld for \$3.9 billion, or 13.0x EBITDA.
- ▶ Parker's acquisition of materials science and vibration control technologies provider, LORD Corp. for \$3.7 billion, or 15.1x EBITDA.
- ▶ Onex Corporation acquisition of West Jet Airlines for \$3.7 billion, or 9x EBITDA.
- ▶ TC Skyward Aviation's acquisition of the remaining 75.5% stake in Aviation Capital Group for \$3 billion, or 10.6x EBITDA.
- ▶ SAIC completed its \$2.5 billion, or 13.7x EBITDA, acquisition of Engility. As a result of the acquisition, SAIC has become the second largest government service contractor behind Leidos.
- ▶ AECOM's sale of its Management Services business for \$2.4 billion, or 11.6x EBITDA to American Securities and Lindsay Goldberg.
- ▶ VMware's acquisition of security solutions provider, Carbon Black for \$2 billion.
- ▶ The Carlyle Group's portfolio company, Pattonair, acquisition of aerospace distributor and supply chain management service provider, Wesco Aircraft Holdings, for \$1.9 billion, or 13.8x EBITDA.
- ▶ Parker's acquisition of aerospace ducting and components business, Exotic Metals, for \$1.7 billion.
- ▶ Leidos' acquisition of applied research and national security solutions provider, Dynetics, for \$1.7 billion, or 12.6x EBITDA.
- ▶ Spirit Aerosystems acquisition of Bombardier's Aerostructures and Aftermarket Service Business for \$1.1 billion, or 6.5x EBITDA.



Top Private Equity Acquirers - expanded portfolio companies

- ▶ The Carlyle Group acquired StandardAero again (previously owned and sold to Dubai Aerospace in 2007) for \$5 billion followed by an add-on of the MRO services division from B&E Group. Carlyle also completed four add-on acquisitions for its airline service provider platform company, Primeflight Aviation Services. In addition to several acquisitions last year related to aerospace, Carlyle also partnered with Stellex to acquire Pacific Northwest ship fabricator and ship maintenance provider, Vigor Industrial, which, at closing, merged with Stellex portfolio company, MHI Holdings. The combination created a bicoastal leader in critical ship repair services and defense related fabrication. Capstone Headwaters acted as advisor to Vigor on the acquisition.
- ▶ Greenbriar made six acquisitions including formerly publicly traded defense and security product provider, Arotech Corporation, for \$103 million; two add-ons for both Whitcraft and Dart Aerospace; and one add-on for platform company, First Aviation Services.
- ▶ AE Industrial made five sector acquisitions: two additional add-ons for platform company, CDI, an engineering and technical services firm; a manufacturer of commercial heavy-lift helicopters; a distributor of fasteners and electronic components for military application; and an air cargo business.
- ▶ Arlington completed four sector acquisitions including: the creation of Radius Aerospace to acquire the forming and fabrication facilities of Triumph Group and subsequent add-on, Doncasters's Aerospace Forming and Fabricating Business in the U.K. later in the year; an add-on for component manufacturing platform company, Cadence Aerospace; and an add-on for Tex Tech Coatings.
- ▶ Dubin Clark made three add-on acquisitions for Kellstrom Defense, a distributor of military aircraft parts, before selling it in 2020 to Aero Precision owned by Odyssey.

SBIR COMPANIES CONTINUE TO BRING PROVEN TECHNOLOGIES TO ACQUIRERS

The number of acquisitions of businesses who have previously won SBIR (Small Business Innovation Research) awards ticked up slightly to 8% of all transactions compared with 7% in recent prior years. Acquisitions were largely concentrated in A&D Electronics and Defense IT and Technology subsectors and made up 70% of SBIR acquisitions.

Major Acquirers of SBIR Businesses 2006 - 2019

Defense Technology	#	Prime Defense	#
L3 Harris	11	Boeing	8
API Tech [JF Lehman]	3	Lockheed Martin	7
Ultra Electronics	3	United Technologies	7
ManTech	3	BAE Systems	5
CAE	2	Safran	3
Hexel Corporation	2	General Dynamics	3
Thales	2	Leonardo	2
Components	#	Government IT	#
Teledyne	4	SAIC	6
3M	3	QinetiQ	4
Textron	3	CACI	4
Moog	2	Maxar	3

Sources: DOD SBIR filings, press releases, Capital IQ

COMMERCIAL AEROSPACE

06 FACING MULTIPLE CHALLENGES

The global coronavirus pandemic has had an unprecedented impact on airlines and the Aerospace industry. As of writing, the situation of airlines and forecasts about their future from bodies such as IATA (the International Air Transport Association) are highly fluid.

However, there are undisputable facts:

- ▶ A fraction of planned flights are being flown, airlines are losing money and their future is at risk. The majority of aircraft are parked, new orders are being cancelled, and plane values are falling. The pain will spread throughout much of the industry and manufacturing supply base. At the time of writing the IATA projects a 38% decline in global passenger traffic for 2020. Airbus has announced production cuts by one third and further reductions are contemplated.
- ▶ The industry is critical infrastructure and the structural factors driving long term growth will ultimately return. Governments will ensure as best they can, the essential service remains, while wrestling with management over returns to taxpayers vs. shareholders. Industry players from airlines to airports, and OEMs (original equipment manufacturers) to MROs have requested government support across numerous countries. Some protection is provided to certain segments with military work.
- ▶ The current situation combines both event driven and economic impact. The depth and length of the downturn will be determined by: the duration of the virus and how quickly flights can resume; the overall impact on the economy and when travelers who chose to and can afford to fly again; and the financial destruction wrought on the industry itself. The airline industry has typically rebounded quickly (within a couple of months) from previous pandemic or event shocks. Economic recessions, have required far longer, taking a couple of years to recover.

The pandemic has had an unprecedented impact on the industry, but even before the crisis storm clouds were gathering.

Even Prior to the Pandemic...in 2019

- ▶ **U.S. Aerospace industry sales fell 13% with orders down 26% on the back of halted MAX deliveries.**
- ▶ **Boeing and Airbus posted financial losses.**
- ▶ **Growth in airline miles flown fell to 4.2%, down from 7.5% in 2018.**
- ▶ **Airline profitability was declining and bankruptcies were increasing at the fastest rate ever in early 2020.**
- ▶ **Boeing halted MAX production. Even then a return to pre-grounding levels was not expected until 2022.**

Even before the crisis, storm clouds were gathering:

- ▶ Global passenger growth and airline profitability were slowing in the face of weaker economic activity.
- ▶ Boeing had suspended production of the MAX after months of building for inventory and did not expect to return to pre-grounding production levels until 2022. Discomfort began to be felt by suppliers as orders evaporated.

Long-term factors driving underlying industry growth will return, and this too shall pass. In the meantime, we are starkly reminded of:

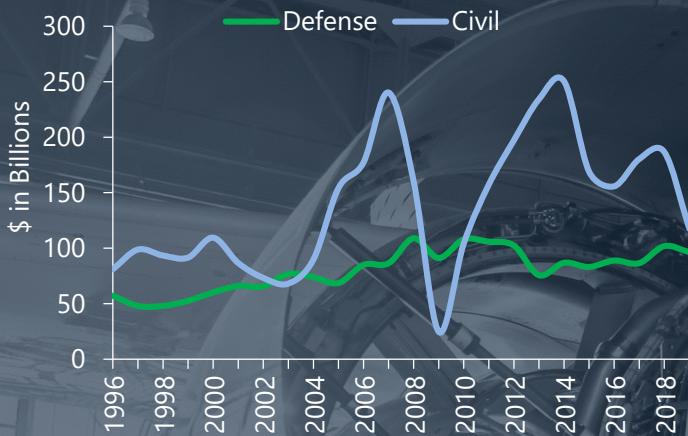
- ▶ The traditional cyclical nature of the Airline and Aircraft Manufacturing industries.
- ▶ The high operating and financial leverage of both airlines and the manufacturing supply base after years of funding heavy capital expenditures to support expansion.

While some segments will have a level of protection from military work, not all will survive, and the industry will emerge financially weaker. We expect that bank negotiations, refinancing, financial restructuring and survival acquisitions to be prevalent.

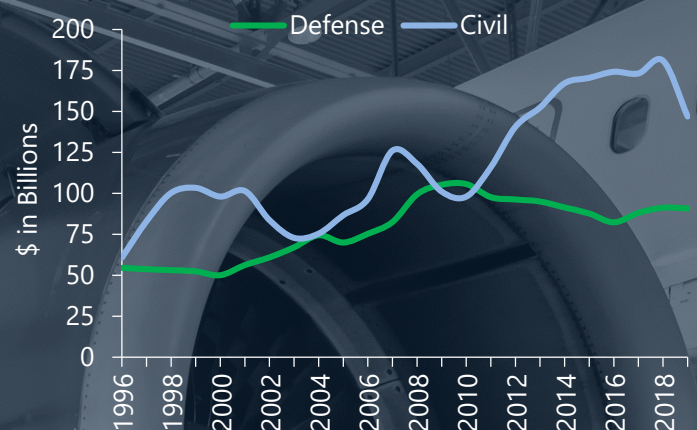
U.S. AEROSPACE INDUSTRY SALES FELL IN 2019: MAX IMPACT

U.S. Aerospace Industry sales decreased 13% overall in 2019 measured by shipments, with new orders falling 26% on the back of the MAX grounding. Defense orders declined 5%, a reversal from the 18% increase of 2018. Civil orders fell sharply, down 37% compared with a 4% increase in 2018. Overall, industry backlogs were strong at almost three years production (1.3 years in defense compared with four years in civil) as reported by the U.S. Census Bureau.

U.S. Aerospace New Order Totals



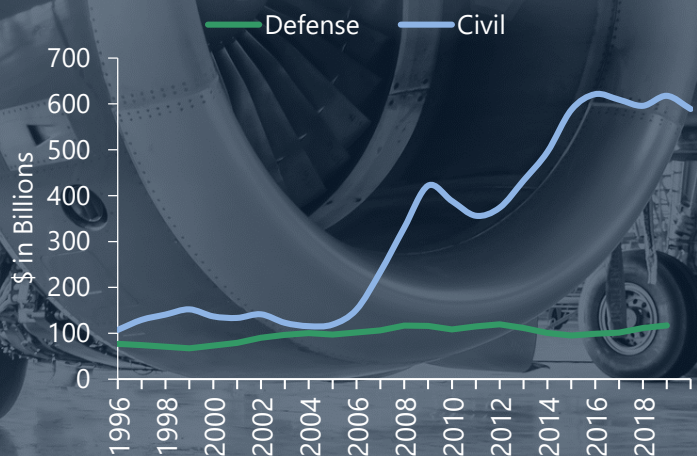
U.S. Aerospace Shipments, Civil vs. Defense



U.S. Aerospace Shipments, Orders and Backlog



U.S. Aerospace Backlog Totals



Includes i) Aircraft & Parts, ii) Search & Navigation, and iii) Communications Equipment
Source: U.S. Census Bureau and Aerospace Industries Association (AIA)

AIRBUS AND BOEING

Boeing and Airbus both showed financial losses for 2019 at a time of peak demand for commercial aircraft.

- ▶ Airbus announced a net loss of \$1.5 billion for 2019, after: \$3.9 billion to settle bribery corruption charges and \$1.3 billion on prior investments in the A400M military transport plane. Revenue rose 11%. A320 production was expected to increase from 60 aircraft per month to 67 by 2023 and a long-range version of the single aisle neo, the A321XLR, is expected to enter fleets in 2023.
- ▶ Boeing announced a net loss of \$0.6 billion including a \$2.6 billion charge relating to the MAX grounding. Revenue fell 24%. Boeing stopped MAX production in January 2020 and acknowledge build rates will not reach pre-grounding levels of 52 per month until 2022. Even if Boeing restarts production prior to recertification by the FAA, which is indicated for later this summer, it will be slow and deliberate not adding to the inventory of planes waiting for delivery.

In the first three months of 2020:

- ▶ Airbus announced reduction in average production rates going forward of a third and further reductions are being contemplated.
- ▶ Boeing revealed a decline in 'net new orders' of 307 aircraft due to cancellations.

In 2019, Boeing lost 87 orders marking the first net loss in commercial orders in over 30 years. Airbus posted a 2.8% increase in commercial aircraft orders. For Boeing and Airbus combined, backlog fell 4% to around eight years of production assuming normal build rates.

- ▶ Boeing delivered 380 aircraft, lost 87 orders, and ended 2019 with a backlog of 5,406 aircraft. This compares with 2018 deliveries of 806, orders for 1,008 and backlog of 5,849.
- ▶ Airbus delivered 863 aircraft, received net orders for 768 planes, and ended 2018 with a backlog of 7,482 (slightly under 9 years production). This compares with 2018 deliveries of 800, orders for 747 and backlog of 7,577 aircraft.

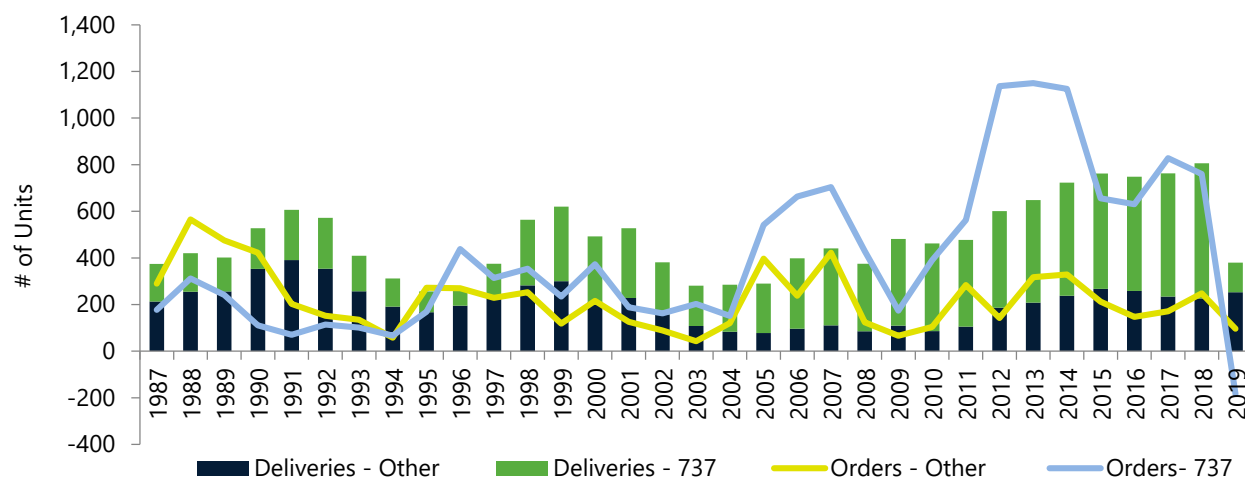
The ongoing shift to single aisle aircraft continued, as smaller planes facilitate more frequent direct flights and provide greater flexibility in managing capacity.

- ▶ Prior to the virus, Boeing intended to cut production of the 787 Dreamliner from 14 to 10 a month, while Airbus was cutting production of the A330neo to 40 from 53 in 2019.
- ▶ For Airbus, almost 90% of orders were for narrow body aircraft (A320 family), which comprised about 75% of production. Narrow body makes up more than 80% of combined Airbus/Boeing backlog.

In their expansion into the smaller regional jet market:

- ▶ Airbus announced in February 2020 its acquisition of the remaining stake in the A220 from pressured Bombardier, relieving Bombardier of their future funding requirements and providing them a needed capital injection of almost \$600 million.
- ▶ Boeing terminated its \$5 billion acquisition of Embraer's commercial business at the end of April 2020, leaving questions around its plans in smaller regional jets.

Boeing Orders & Deliveries by Aircraft Type



MAX CHALLENGE: LARGE ENGINE, LOW AIRCRAFT, LITTLE CHANGE

Problem MCAS is trying to solve

The MAX was to bring improved fuel efficiency to the 737, by adding larger next generation LEAP engines. It was also intended to be similar to fly to other 737s, thereby minimizing incremental costs including pilot training. This followed a path pioneered by Airbus, adding LEAP engines to the A320, creating the Neo.

A difference between the two basic aircraft, however, is the A320 simply sits higher off the ground than the 737 providing the room for larger engines. To create sufficient space, the MAX uses LEAP engines with ten-inch smaller fan blades, which are then placed higher on the wing and slightly further forward.

An outcome of more powerful engines higher on the wing, is instead of flying the same way as other 737s, the nose of the MAX can point further upward at full throttle increasing the risk of a stall. A software fix was designed to point the nose of the aircraft down in the event of too steep an angle. That fix, named the "Maneuvering Characteristics Augmentation System" or "MCAS," forces the nose down. It is this result pilots were reported to be wrestling with prior to crash.

Will the MAX fly

Although a fundamental redesign with a plane higher off the ground to allow for larger engines seems inevitable in the years to come, that requires a long time to come to market and seems unlikely in the near term. Such a redesign was Boeing's preferred route prior to the launch by Airbus of the neo and its need to play catch up. Perhaps that is what the NMA New Midmarket Airplane will ultimately become to compete with the A321XLR. With 387 aircraft grounded at customers, 400 waiting for delivery, and backlog over 4,000 the MAX smells of "too big to fail."

It is now acknowledged that the MAX does not fly the same way as other 737s, so additional pilot training will be required. Other fixes of reducing the aggressiveness with which MCAS pushes the nose down, and additional sensors for redundancy in determining angle of flight are in the works. These will delay both delivery and the time before the aircraft joins customer flight schedules. The growing list of other items to be resolved including: debris in fuel tanks, engine lightning strike fixes, and investigations by regulators on areas such as wiring, are not speeding things along.

MAX Impact

Even before the coronavirus and resulting order cancellations, an impact of the MAX grounding on supplier profitability was inevitable. Boeing had been building inventory for almost a year before halting production.

- ▶ Suppliers such as Spirit Airlines (NYSE:SAVE) had made cuts and expected to deliver 216 shipsets in 2020, a third of the 52 per month level prior to the grounding. MAX production rates were expected to be in the 20s per month once production resumed in 2020 and in 30s per month in 2021.
- ▶ An impact on M&A was being felt: Senior plc expected a potential sale of its Aerostructures business to be delayed due to MAX uncertainty; and Stanley Black & Decker's (NYSE:SWK) up to \$1.5 billion acquisition of aerospace fastener manufacturer, Consolidated Aerospace Manufacturing included a \$200 million payment contingent on MAX returning to service and production levels.

Boeing 737 MAX



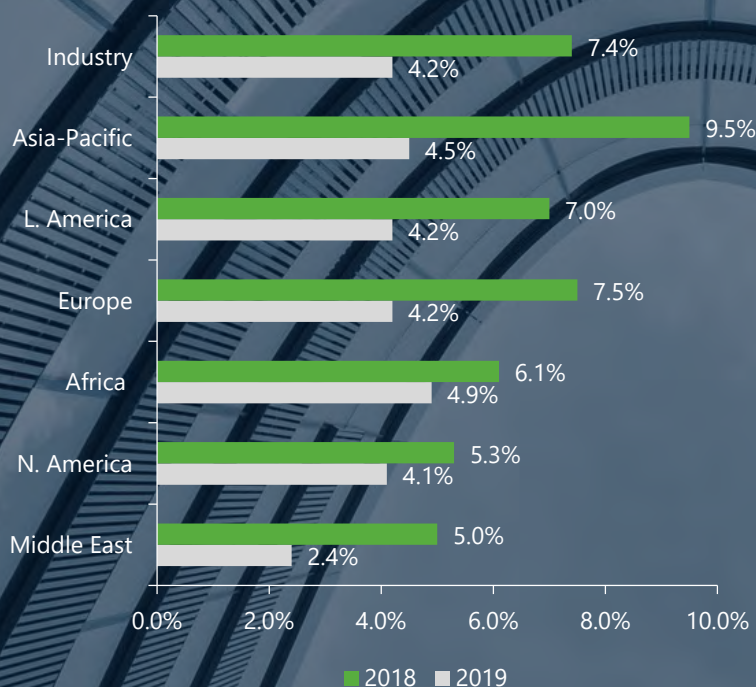
Airbus A320neo



With more powerful engines higher on the wing, the MAX does not fly the same way as other 737s.

Source: Björn Strey and 玄史生 / CC BY-SA

International Passenger Traffic Growth by Region 2018 vs. 2019



Source: International Air Transport Association

SLOWER PASSENGER GROWTH AND WEAKER AIRLINE PROFITABILITY BEFORE VIRUS

The situation of airlines and short term traffic forecasts are highly fluid. At the time of writing a fraction of planned flights are being made and the IATA projects a 38% decline in global passenger traffic for 2020. The depth and length of the downturn will be determined by: the duration of the virus and how quickly flights can resume; and the overall impact on the economy and when travelers who chose to and can afford to fly again. Passenger miles have rebounded within a couple of months from previous pandemic or event shocks, but it has taken a couple of years to recover from economic recessions.

In 2019 passenger mile growth slowed to 4.2%, down from 7.5% the prior year and a touch below the long-term average, with global GDP (gross domestic product) down slightly from 3.1% to 2.5%. This marked the first year since the global financial crisis that passenger demand fell below the long-term trend of ~5.5%, as reported by IATA. The moderation was attributable to a slowing global economic backdrop, declining world trade activities and political and geopolitical tensions. Asia Pacific growth slowed from 9.5% to 4.5%.

Passenger load factors reached a record high of 82.6% in 2019, likely aided by a shortage of aircraft following the MAX grounding as well as improved airline booking management.

Global commercial airline profitability continued to retreat, posting a 5.1% EBIT margin for 2019, 60 basis points lower than 2018. Airline worldwide return on invested capital fell to 5.7%.

CirComp
Competence in Composites

has been acquired by

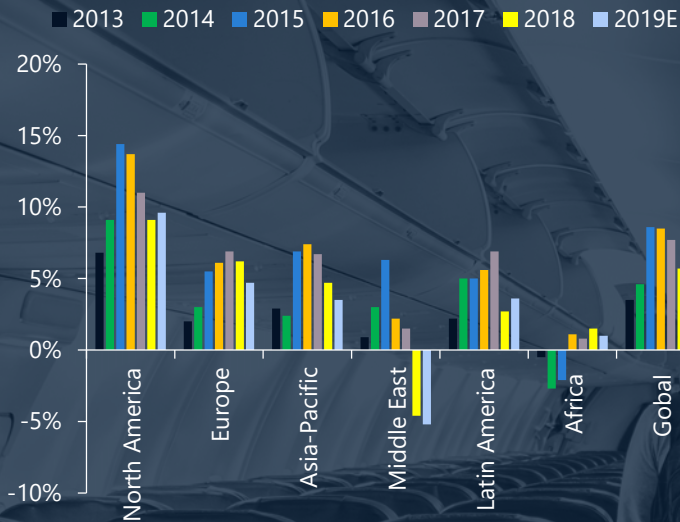
ALBANY
INTERNATIONAL

Capstone Headwaters Advises the Founder of CirComp on Strategic Partnership with Albany International

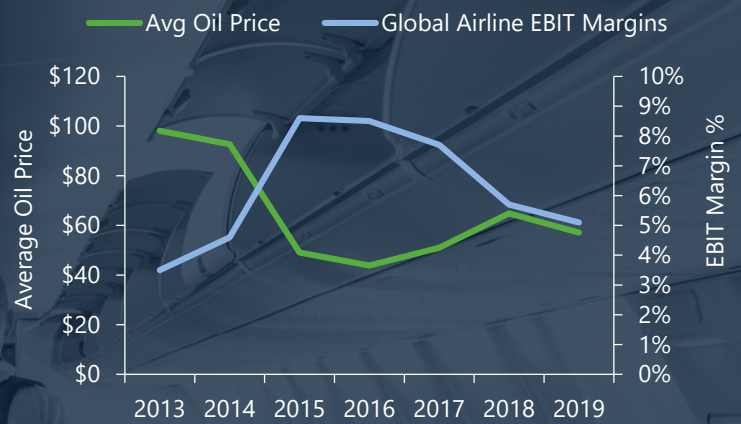
November 2019

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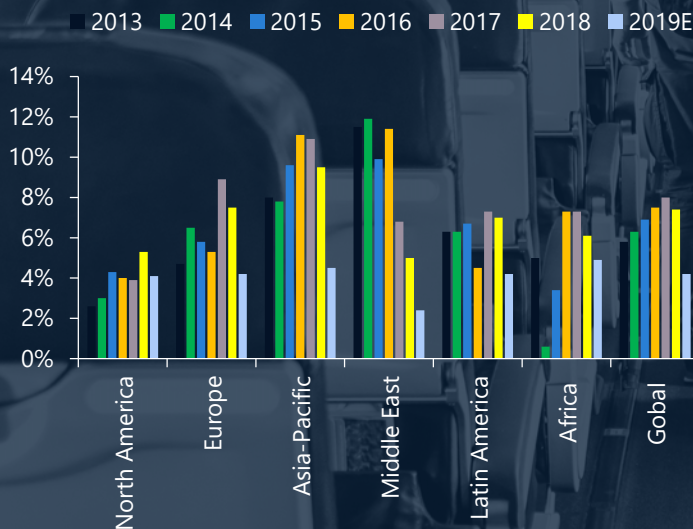
EBIT Margin by Region



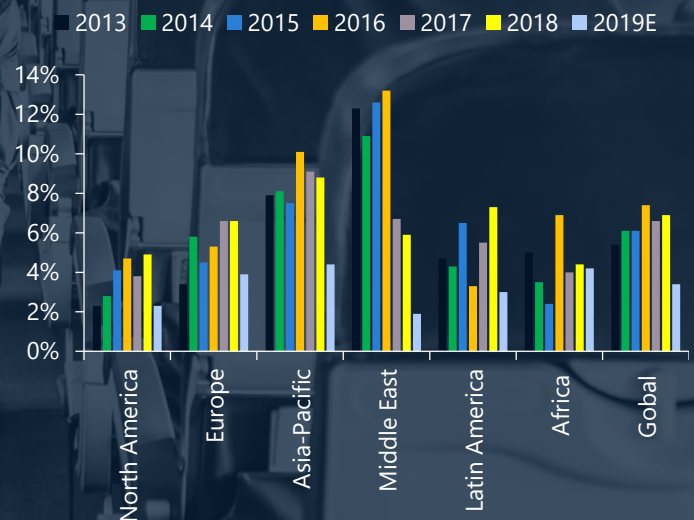
Average Oil Prices and Airline EBIT Margin



Passenger Traffic Y/Y Growth



Passenger Capacity Y/Y Growth



AIRLINE BANKRUPTCIES

In 2019, 27 airline operators ceased or suspended operations. Even before the virus outbreak, airline bankruptcies were increasing at the fastest rate ever recorded, according to Reuters. Struggling British regional airline Flybe was the first to go bust citing fallout from the coronavirus as the final straw. There are sure to be more weak carriers unable to garner enough economic or political support to ensure their survival.

Failures in 2019 Included:

- ▶ Thomas Cook, 178 year old UK tour operator, operating 100 aircraft.
- ▶ Jet Airways, once the largest airline in India, with a fleet of 120 aircraft.
- ▶ WOW Air, Iceland low cost carrier who planned to relaunch as PLAY, and had previously cut its fleet from 20 to 11 aircraft.
- ▶ Adria Airways, the Slovenia flag carrier, operating a fleet of 20 aircraft.
- ▶ Aigle Azur, the second largest airline in France, with 11 aircraft.
- ▶ Flybmi, UK based regional carrier, with 17 aircraft.
- ▶ Avianca, the fourth largest airline in Brazil with a small Argentine operation, 103 aircraft.

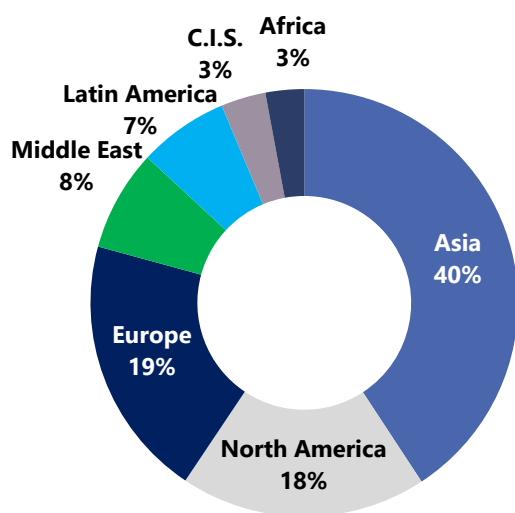
FUNDAMENTAL SUPPORT FOR LONG TERM MARKET FORECAST

Despite the crisis, the fundamental long term factors underpinning sector growth remain in place.

Boeing and Airbus pre COVID-19 projected passenger growth to average 4.6% and 4.3%, respectively, over the next 20 years with fleet growth around 3.5% - 4%. Combined, they expect 77% of deliveries to be single aisle.

Forecasts were highly dependent on fleet expansion in Asia Pacific, which was expected to account for 40% of new deliveries. This is more than the mature markets of Europe and North America combined, which were each expected to account for 19% and 18%, respectively.

Commercial Aircraft Sales Forecast, Airbus & Boeing By Geography, 2019 - 2038



Source: Airbus and Boeing

MRO

MRO shares the same worries in coronavirus times as the rest of the industry: revenue drivers are a function of flight hours and fleet age. Some have argued airlines will take this opportunity to increase fleet maintenance, but with cash conservation being a primary concern, this seems an unlikely savior. Revised expectations include:

- ▶ Reduced flight hours.
- ▶ Increased retirements, tear downs and the borrowing of parts from parked aircraft.

Prior to the downturn, MRO benefitted from:

- ▶ Expanded fleet size and increased flight hours. Data analytics for predictive maintenance and pressures of recruiting/training skilled labor were concerns of the day.
- ▶ MAX woes, as airlines used older aircraft with higher maintenance requirements in place of 700 new MAX aircraft operating under warranty.

Boeing maintained focus on its services business in 2019, as it:

- ▶ Sought to expand revenue over the life of an aircraft and build on the 2018 acquisition of KLX (renamed Boeing Distribution Services).
- ▶ Acquired flight planning and navigation software business Foreflight, and interiors business Encore.

Strong Structural Underpinnings to Passenger Growth Remain

Macro Trend Demand Elements

- ▶ GDP growth returns
- ▶ Disproportionate increase in travel from an expanding middle class in emerging markets
- ▶ Urbanization

Supply-Side Factors

- ▶ Travel becoming more attractive due to: lower ticket prices, expansion of low-cost airlines, more direct flights, new routes, improved timetables.
- ▶ Facilitated by technology developments: smaller planes that fly further with greater fuel efficiency; and airlines gaining higher load factors from improved focus, scheduling, and booking tools.

AIRCRAFT LEASING

Leasing has grown to account for more than 40% of the worldwide commercial aircraft fleet. Over the past 20 years, while the global fleet has doubled, the leased fleet has quadrupled. With customers suffering, leasing companies can expect their share of pain through rent deferrals, Indeed Avolon has indicated 80% of customers are seeking payment relief:

- ▶ Commercial aircraft values and lease rates fell 20% in prior downturns.
- ▶ Well over half of the global aircraft fleet was parked as of April 2020.

With ongoing production and MAX coming into service there will be a surplus of aircraft and increasing retirements. This raises concerns for:

- ▶ How new aircraft purchases will be financed.
- ▶ The extent to which older planes will continue to fly for longer due to lower fuel costs. While this ignores the real cost, including environmental impact of running less efficient aircraft, there is likely less appetite today for reflecting that cost.

Around half the top 10 aircraft leasing companies are now owned by Asian financial companies. Chinese expansion into the sector have created concerns among participants about future returns and a potential bubble. However, the rate of expansion slowed in 2019 with somewhat less M&A activity and only two notable transaction among the top players.

- ▶ Tokyo Century Corporation (Japan) acquired the remaining 75% stake in Aviation Capital which it did not hold from Pacific Mutual (U.S.) for 1.1x book value and 10.6x EBITDA.
- ▶ Japanese Conglomerate Marubeni Corporation acquired U.S.-based publicly traded Airastle Limited for \$7.4bn or 1.1x book value and 14.4x EBITDA.



Top Aircraft Leasing Companies

Rank	Name	Fleet size	HQ	Ownership
1	GECAS	1900	USA	General Electric (USA)
2	AerCap	1035	Ireland	Public, AER (Ireland)
3	Avolon	925	Ireland	Bohai Financial (China)
4	SMBC	715	Ireland	Sumitomo Mitsui (Japan)
5	BBAM	513	USA	GIC (Singapore), Onex (Canada)
6	Nordic Aviation	489	Denmark	EQT (Sweden)
7	Air Lease Corp.	375	USA	Public, AL (USA)
8	AWAS DAE	357	Ireland	Dubai Aerospace Enterprise
9	BOC Aviation	357	Singapore	Public, Bank of China (China)
10	ICBC Leasing	325	China	Industrial & Commercial Bank of China

Fleet size by number of owned & managed aircraft

Source: Inside MRO, Aircraft Investor, AirFinance Journal

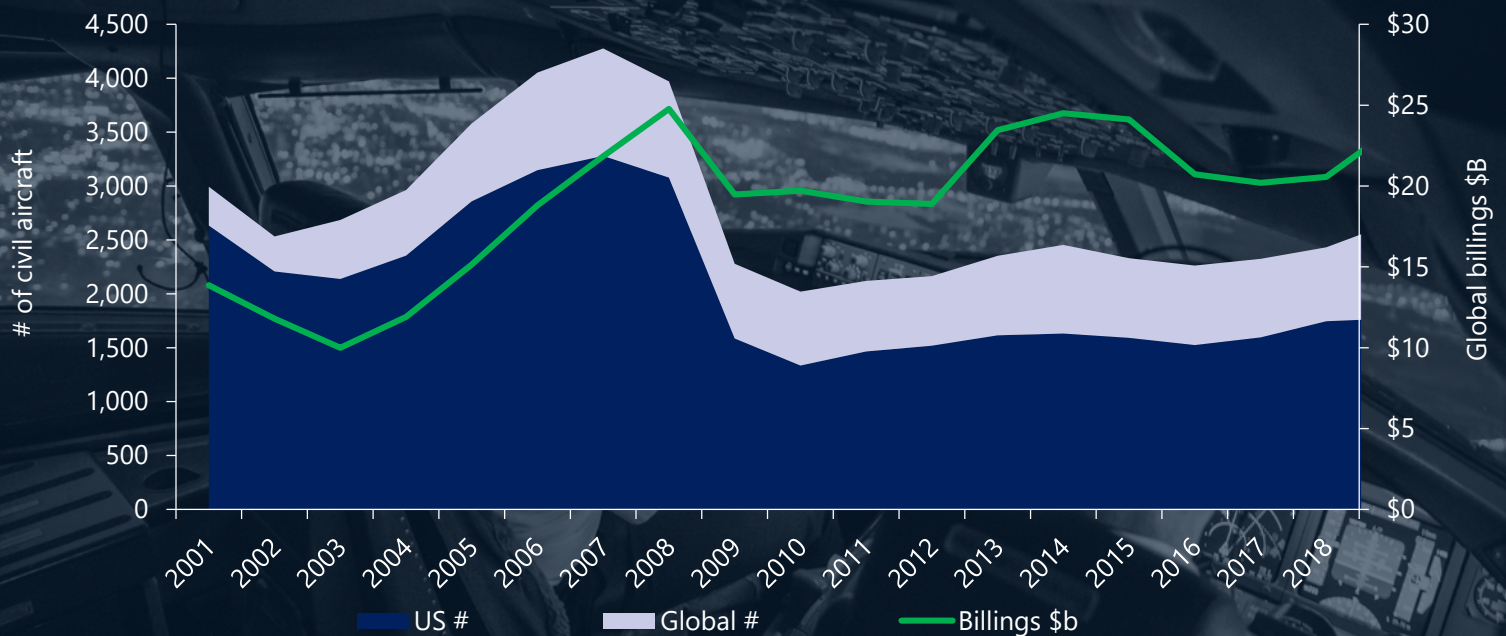
GENERAL AVIATION

The NBAA (National Business Aviation Association) shares industry concerns in the current climate and various elements of government support covered general aviation in the stimulus bill. These include funding for airports, suspension of fuel taxes, and availability of loans and grants for carriers.

The year 2019 was strong for the General Aviation market, which posted growth in overall billings of 10.2% to \$26.8 billion, as reported by the General Aviation Manufacturers Association (GAMA). Piston airplane deliveries saw the highest growth, up 16.4%, and deliveries of business jets reached levels not seen since 2009, increasing by 15.1%. Rotorcraft shipments more than reversed their 2018 increase, with billings declining 11.9% in 2019.

Over the past 15 years, the average price of general aviation aircraft has almost doubled and U.S. market share has dropped to less than two-thirds, with Europe & Canada gaining ground.

General Aviation Civil Shipments & Billings



DEFENSE

07

STEADY OUTLOOK FOR DEFENSE SPENDING



COVID-19 IMPACT ON DEFENSE:

The impact to the defense sector during the market dislocation caused by COVID-19 is difficult to fully forecast, but in direct response, the federal government has taken proactive steps on fiscal stimulus policy to lessen the negative impact on the U.S. economy. On March 6, 2020, the President signed into law H.R. 6074, the Coronavirus Preparedness and Response Supplemental Appropriations Act (CPRSAA).⁸ This measure included \$8.3 billion in funding for federal agencies to shore up grant and loan programs that provide money to the States and other entities to fight the spread of COVID-19. The Act also funded vaccine production efforts.

In an emergency funding request to Congress, the White House submitted on March 17th an additional \$45.8 billion, with \$8.3 billion in it for the Department of Defense (DOD).⁹ The request is separate from the Trump Administration's \$2 trillion stimulus proposal, which it presented the same day on Capitol Hill. On March 25th, the White House and Senate reached a stimulus package, characterizing the aid as "snap loans" not bailouts.¹⁰ Specifically for the Department of Defense, the use of funds is to "mitigate the risk of COVID-19 to United States service members, their dependents, and DOD civilians; minimize the impacts of the virus on strategic mission readiness; and support national response efforts." The stimulus includes direct operations and maintenance funding to the military services, the National Guard and reserves.¹¹ Also of note, President Trump signed an executive order, The Defense Production Act (DPA), as a means of sourcing medical equipment to the nation. The DPA gives the President authority to expand production and supply of goods in support of national defense.¹² The scope of "national defense" in regards to DPA is applicable beyond military needs and can be implemented for domestic support in national emergencies.¹³

Impact on Defense Readiness

- ▶ Due to COVID-19, The Pentagon will reduce the size and scope of Defender 2020¹⁴ – one of the largest U.S.-European Allied Forces exercises designed to move a division size combat force to Europe.¹⁵ It involves about 20,000 U.S. soldiers to support activities across 10 European countries, and is largest deployment of U.S.-based forces to Europe for an exercise in the more than 25 years.
- ▶ The U.S. Navy has postponed its large-scale summer 2020 fleet exercises, an event conceived of by the last Chief of Naval Operations as the first opportunity to execute Distributed Maritime Operations and reorient the fleet towards advanced operations in support of the National Defense Strategy.¹⁶

Reduced Maintenance Schedules

- ▶ The Pentagon pulled the U.S. Naval Station Norfolk, Virginia-based USNS Comfort (T-AH-20) out of its current maintenance period to head up to New York to respond to the pandemic.¹⁷ These hospital ships are optimized for treating trauma patients rather than infectious diseases.¹⁸

Uncertainty for Contractors, Despite Policy Advisory

- ▶ As of March 20, Defense Under Secretary of Defense for Acquisition and Sustainment Ellen Lord signed a memorandum on March 20th that declared that a large swath of the defense industrial base (DIB) as “critical infrastructure”¹⁹ and should continue to work supporting their government customers to the maximum extent possible. To address near term cash flow concerns, the Pentagon has increased progress payments 80% of cost to 90% for large businesses, and from 90% to 95% for small businesses.²⁰
- ▶ In a strong message from a leading aerospace and defense trade association,²¹ the industry called for:
 - Accelerated payments, tax breaks and credits, and zero-interest loans in a timely fashion;
 - Exempting contractors, as appropriate, from state and local orders that restrict facility access for businesses;
 - Protecting contractors and their employees should the government close an organization’s operations because of coronavirus; continuing to pay contractors as it will with government employees; and
 - Assuring contracting authorities will excuse delays, entitle vendors to equitable adjustment of a contract price, and pay contractors on time when vendors confront challenges caused by the pandemic.
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Specifically for the Department of Defense, the use of funds is to “mitigate the risk of COVID-19 to United States service members, their dependents, and DOD civilians; minimize the impacts of the virus on strategic mission readiness; and support national response efforts.” The stimulus includes direct operations and maintenance funding to the military services, the National Guard and reserves.

BUILDING A MORE LETHAL, AGILE AND INNOVATIVE FORCE ON A FLAT DEFENSE BUDGET

In February 2020, the Trump Administration released its 2021 Department of Defense (DOD) budget request – the President’s Budget 2022 (PB21)²² – to Congress in line with the goals reflecting the “irreversible implementation”²³ of the 2018 National Defense Strategy (NDS). The NDS prioritizes essential investments in modernization, lethality, and innovation that provide the U.S. military with the required capabilities to meet current and future challenges.²⁴ This year’s budget focuses on “great power rivals; prioritize artificial intelligence, 5G, and industries of the future; and to protect our research and environment from foreign government influence.”

Streamlining bureaucracy was another overarching theme, with the Pentagon identifying over \$5 billion in cost savings in 2021, and transferring another \$2 billion in programs and functions to the military services, thereby reducing the Office of Secretary of Defense-led programs.

Total national security spending, including for the National Nuclear Security Administration and other outside agencies, is \$740 billion, as set by a congressional budget agreement last year.

Specifically, the proposed DOD budget request includes:²⁵

- ▶ \$705.4 billion for DOD
- ▶ Including \$636.4 billion for the base budget
- ▶ \$69 billion for Overseas Contingency Operations (OCO).
- ▶ Reflects a \$0.8 billion increase above the 2020 enacted level for base and OCO.
- ▶ Overall procurement funding sits at \$136.9 billion.²⁶

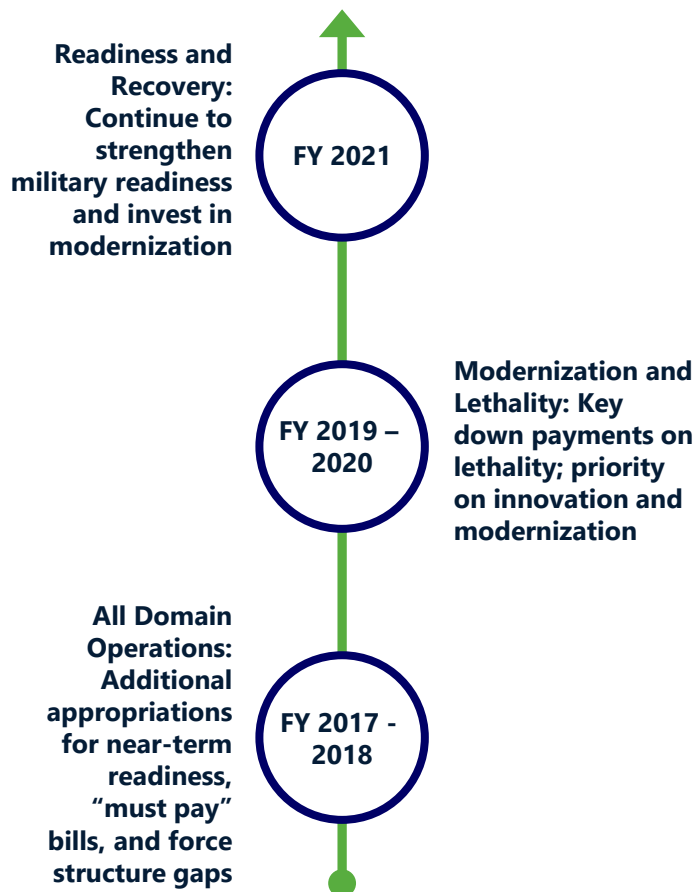
The OCO request of \$69 billion is down dramatically from last year’s \$164 billion:

- ▶ \$20.5 billion in “direct war requirements,” or funding for combat operations that will end at some point in locations like Iraq and Syria.
- ▶ \$32.5 billion in “enduring requirements,” which covers funding for the sustainment of bases, as well funding for the European Deterrence Initiative.
- ▶ \$16 billion in “OCO for base,” a funding mechanism for money that could be in the base budget but is classified as OCO for the purpose of avoiding Congressional-mandated budget caps.

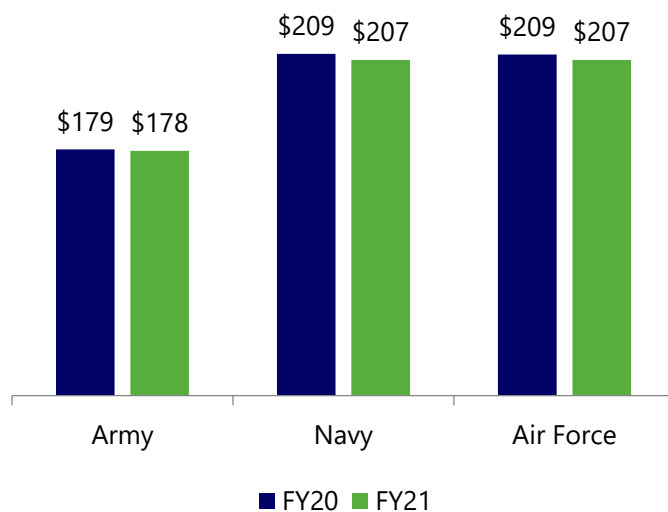
With a flat budget the military service end of plans to expand their manpower numbers.²⁷

- ▶ \$178 billion for the Army, a drop by \$462 million from FY20 enacted levels;
- ▶ \$207 billion for the Navy, down \$1.9 billion from FY20;
- ▶ \$207 billion for the Air Force, up \$1.7 billion from FY20.

Irreversible Implementation of the NATIONAL DEFENSE STRATEGY

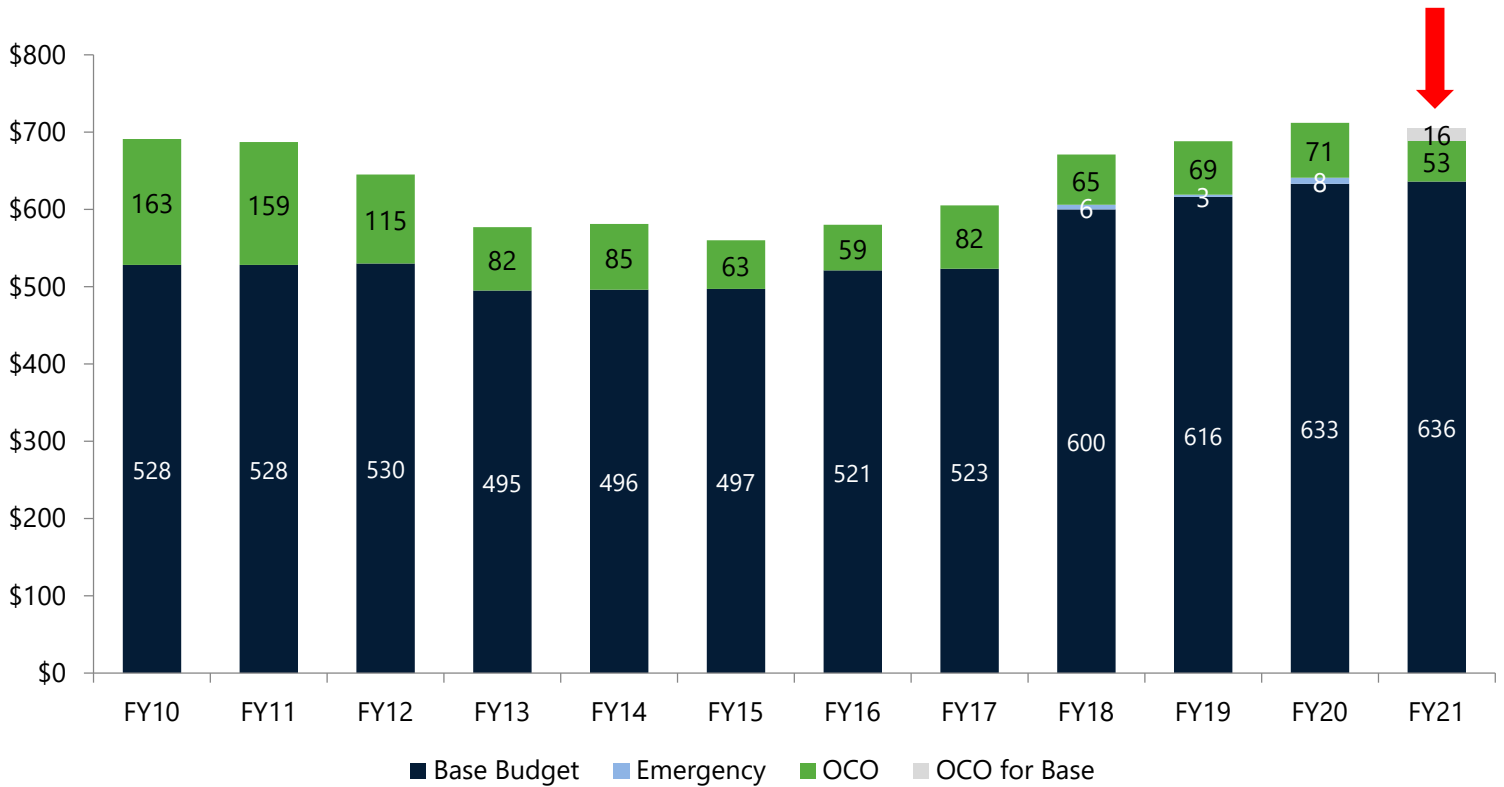


Budget by Military Department (\$B)



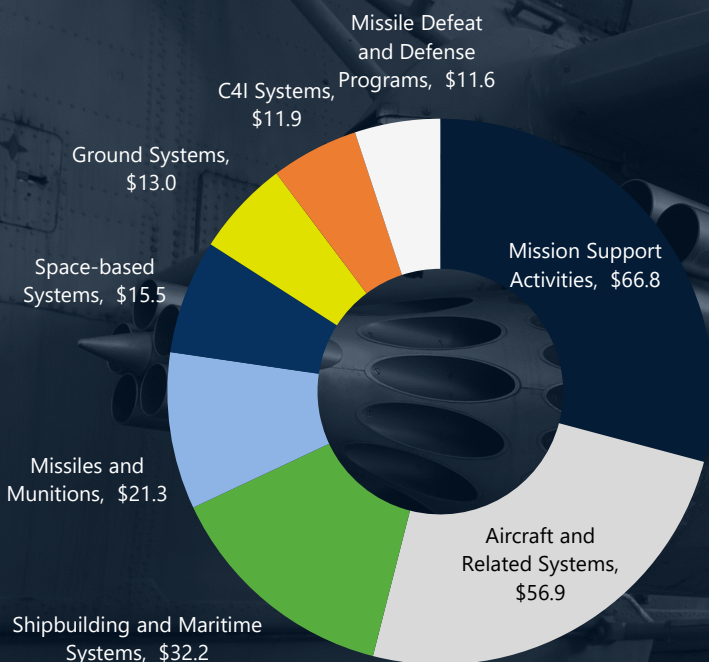
DOD Funding from FY10 - FY21

Discretionary Budget Authority (\$B)



Source: Department of Defense FY 2021 budget Proposal

FY21 Investment Total: \$234.4 Billion



Key defense spending accounts:

- ▶ Mission-support activities: \$66.8 billion
- ▶ Aircraft and related systems: \$56.9 billion
- ▶ Shipbuilding and maritime systems: \$32.2 billion
- ▶ Missiles and munitions: \$21.3 billion
- ▶ Space-based systems: \$15.5 billion
- ▶ Ground systems: \$13 billion
- ▶ C4I systems: \$11.9 billion
- ▶ Missile defeat and defense programs: \$11.6 billion

The Pentagon is also requesting \$106.6 billion to fund research, development, test and evaluation (RDT&E) efforts, an increase of \$2 billion over the FY20 enacted figures. The White House notes this is the “largest RDT&E budget in its history.” Four “crucial” technologies are grouped together under a new acronym — ACE, which stands for Advanced Capability Enablers:

- ▶ Hypersonics at \$3.2 billion
- ▶ Microelectronics/5G at \$1.5 billion
- ▶ Autonomy at \$1.7 billion
- ▶ Artificial intelligence (AI) at \$841 million

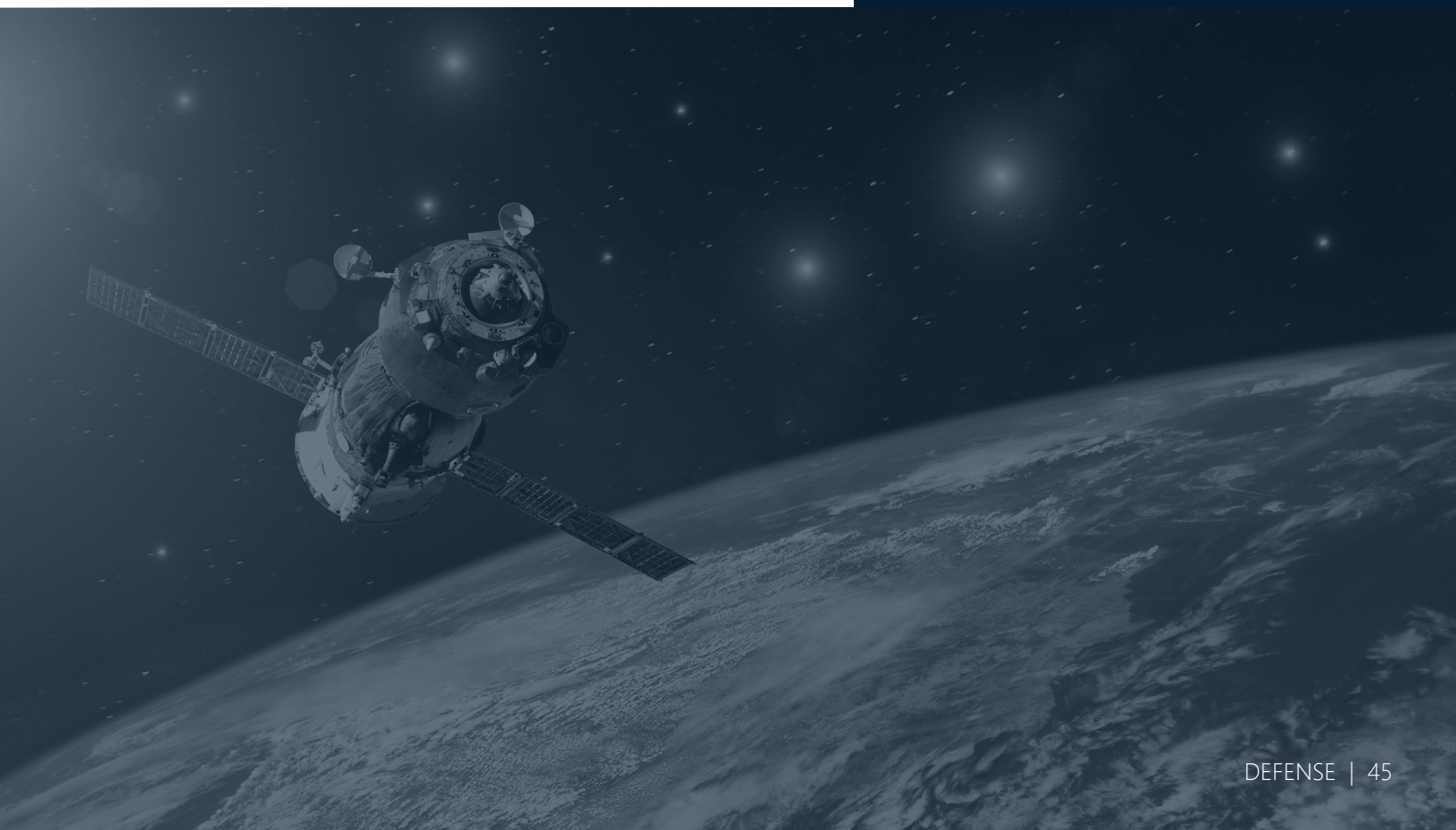
The Cyber programs total \$9.8 billion, including investments in cybersecurity (\$5.4 billion), operations (\$3.8 billion), and science and technology (\$556 million).

With a renewed focus on the space domain, the space \$18 billion budget includes:

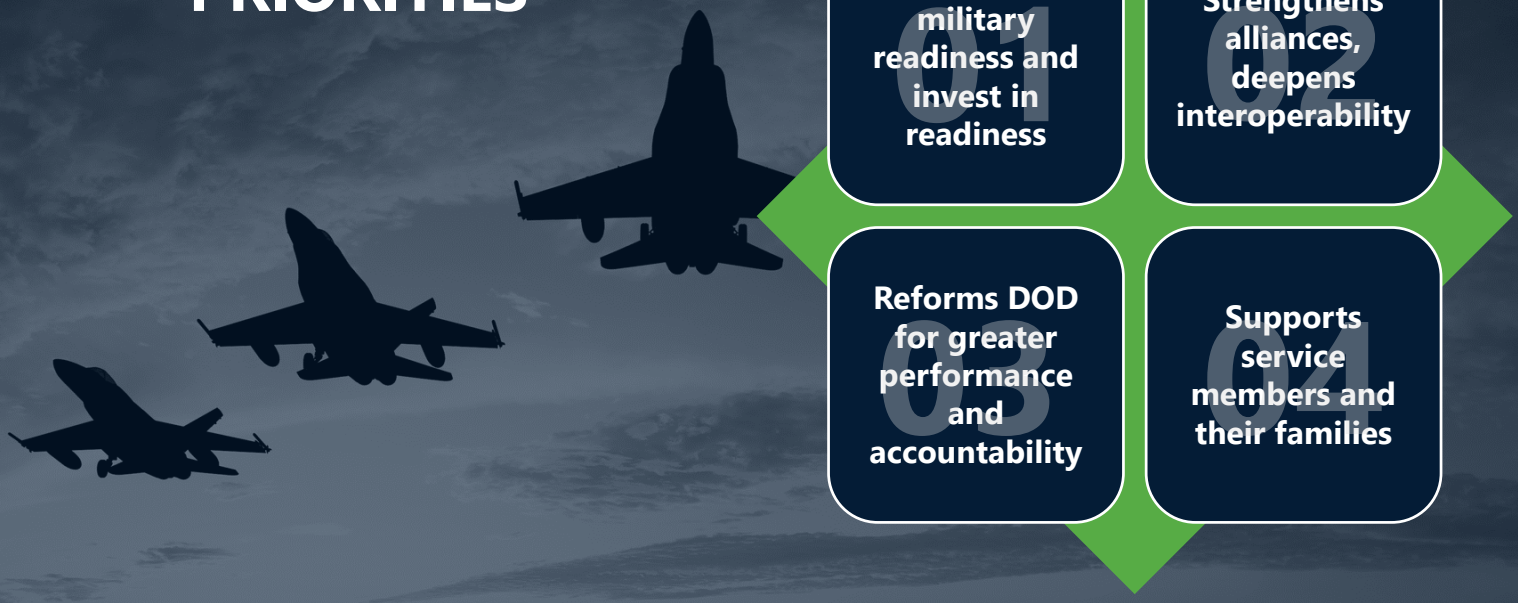
- ▶ In its first budget request as the newest military service, U.S. Space Force - \$15.4 billion. This comprises of:
 - 3 National Security Space Launch (aka EELV) - \$1.6 billion
 - 2 Global Positioning System III and Projects - \$1.8 billion
 - Space Based Overhead Persistent Infrared Systems - \$2.5 billion
- ▶ U.S. Space Command - \$249 million
- ▶ Space Development Agency - \$337 million

In this election year, it is likely that Congress will overturn the administration’s FY21 proposal to cut the nondefense base budget by 5.1 % while adding 0.08% to the base defense budget. In addition, there is a prevailing view that President Trump’s proposal to extend budget caps through 2025, where defense would increase by roughly 2% each year as nondefense discretionary decreases 2% each year, will not be passed by Congress.

**The Defense industry
is currently benefitting
from a 3.6% increase
in the 2020
Discretionary Budget.**



FY 2021 BUDGET PRIORITIES



1) Strengthen military readiness and invest in readiness.

The FY 2021 budget request continues building a more lethal force by maximizing force readiness, modernizing capabilities in all warfighting domains, and innovating to expand the US competitive advantage. The budget funds readiness across each of the Services at \$125.1 billion, with Air Force receiving Air \$56.9 billion, Maritime \$32.3 billion, Land \$13 billion, Missile Defeat and Defense \$20.3 billion, Nuclear Enterprise \$17.7 billion, Special Operations Forces \$3.0 billion.

2) Strengthen alliances, deepen interoperability.

The North Atlantic Treaty Organization (NATO) announced that 2019 defense spending across European Allies and Canada increased in real terms by 4.6%, the fifth consecutive year of growth. By the end of 2020, these Allies will have increased investment in FY 2020 by \$130 billion cumulatively from FY 2016, and this accumulated increase in defense spending is projected by the NATO Secretary General to rise to \$400 billion by 2024.

3) Reform the DOD greater performance and accountability.

The Secretary of Defense and the Deputy Secretary of Defense led 21 review sessions examining \$99 billion of appropriated resources across roughly 50 Defense-Wide (DW) organizations and activities. The DWR identified aggressive reform opportunities resulting in over \$5.9 billion in FY 2021 savings for reinvestment in lethality and readiness, and an additional \$2.1 billion in activities and functions to realign to the Military Departments.

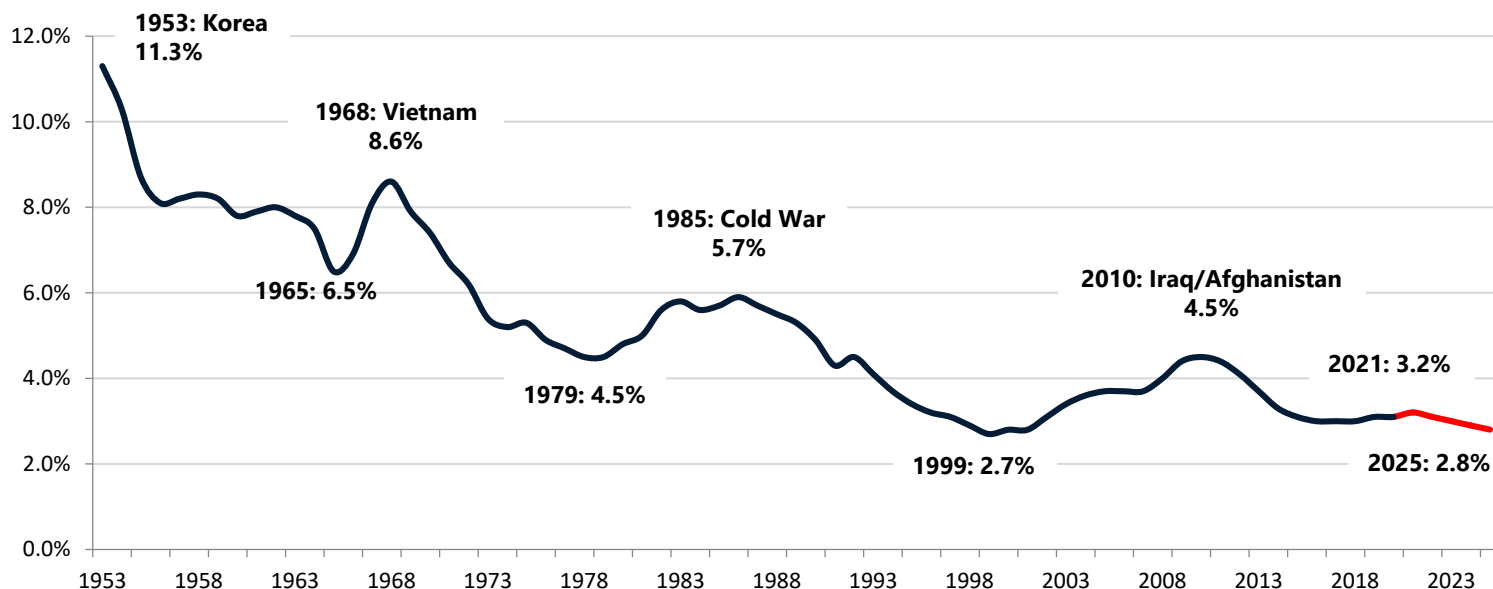
4) Support service members and their families.

The Pentagon proposed over \$8 billion in key investments in compensation, quality-of-life/family support initiatives and commitments to improve the service members and their families' safety. The proposed budget supports a 3% military pay raise.

The Trump Administration's DOD request reflects a \$0.8 billion increase above the 2020 enacted level for base and OCO.

Overall, the Pentagon's FY21 budget request includes 2% YOY decline for modernization accounts (Procurement plus RDT&E), which drive most of the revenue for aerospace and defense companies. Some analysts estimate that the 100 largest programs in DOD's budget declined more, by 6%, in the FY21 request. This larger decline for the largest programs reverses the trend of the past several years, where the top modernization priorities gained share of a growing budget.²⁸

DOD Outlays as a Percent of Gross Domestic Product (GDP) FY 1953 - FY 2025



Source: DOD spending as a percent of GDP compares DOD outlays, both discretionary and mandatory, from the National Defense Budget Estimates for FY 2020 (Table 7-7) and projected GDP from OMB's Economic Assumptions for the FY 2021 Budget

The FY 2021 budget is near a record post-World War II low as a percent of GDP



IMPACT ON M&A ACTIVITY

As the U.S. increased its defense spending in FY16-19, the cash outlays impacting the sector will have a positive effect for next 12 to 24 months, with some market analysts predicting a 10% and 7% cash outlay growth in 2020 and 2021 respectively.²⁹ Going forward, the expectation is a flat topline number, thus dampening the Aerospace & Defense market considerably.

Defense Electronics and C4ISR Consolidation

Aerospace & Defense M&A activity continued into 2020 following a robust 2019. Notable deals included:

- ▶ Merger of United Technologies and Raytheon, with the combined entity expected to have \$74 billion in pro forma 2019 sales (closed April 2020).
- ▶ Leidos Holdings' (NYSE:LDOS) agreement to acquire Dynetics for \$1.65 billion (closed January 2020).
- ▶ Parker-Hannifin Corporation's (NYSE:PH) \$1.7 billion acquisition of Exotic Metals Forming (closed September 2019).
- ▶ Parker-Hannifin's acquisition of LORD Corp for \$3.67 billion (closed October 2019).
- ▶ Pacific Architects and Engineers (Nasdaq:PAE) reverse merger of Gores Holdings III's to become a publicly listed company with a \$1.55 billion initial enterprise value (closed February 2019).
- ▶ BAE \$1.9 billion acquisition for Collins Aerospace's Military Global Positioning System Business and \$275 million for Raytheon's tactical airborne radios (announced January 2020).

In the middle market deals, Defense Electronics continued to experience consolidation within the mid-cap players.

- ▶ Greenbriar Equity acquired listed Aerotech (Nasdaq:ARTX) for \$80 million (closed September 2019).
- ▶ Mercury Systems (Nasdaq:MRCY) acquired American Panel Corporation for \$100 million (closed September 2019).
- ▶ CACI International (NYSE:CACI) acquired Mastodon Design for \$225 million (closed January 2020).
- ▶ Elbit Systems (TASE:ESLT) acquired the Night Vision business of Harris Corporation (formerly NYSE:HRS) for \$350 million (closed September 2019).
- ▶ Huntington Ingalls (NYSE:HII) acquired Hydroid for \$350 million (closed March 2020).
- ▶ FLIR Detection acquired Endeavor Robotics from Arlington Capital for \$382 million (closed March 2019).
- ▶ Jacobs Engineering (NYSE:J) acquired KeyW Holding for \$815 million, including an estimated \$272 million of KeyW net debt (closed June 2019).



- ▶ Capstone Headwaters Advises Vigor Industrial on its Acquisition by The Carlyle Group
- ▶ October 2019
- ▶ [Read press release](#)

As part of the deal, Vigor will merge with MHI Holdings, an 800-employee ship repair and maintenance company in Norfolk, Virginia. MHI is owned by Stellex. The Carlyle Group will be majority owner of the combined company, which it has named Titan Acquisition Holdings. Terms were confidential.

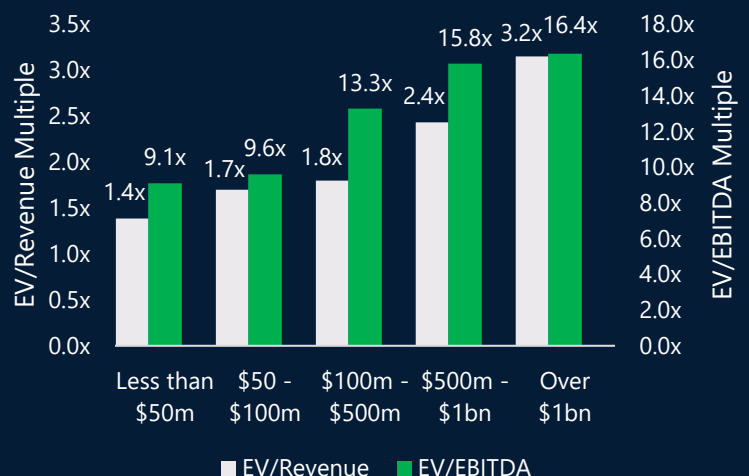


- ▶ Capstone Headwaters Advises GC&E Systems Group on its Acquisition by Bristol Bay Native
- ▶ October 2019
- ▶ [Read press release](#)

GC&E Systems Group was sold to Bristol Bay Native Corporation, as part of their Federal IT and military installation enterprise services expansion. Terms were confidential.

Defense Electronics Transactions

Enterprise Value by Size, 2016-2019



Source: CapIQ

GOVERNMENT IT SERVICES

08 PROVEN RESILIENT

FIRST, RECORDS UPON RECORDS, AND NOW “RESILIENCY IN THE FACE OF ADVERSITY”

2019: Setting New Records

Last year, this report detailed the industry trends then promoting record deal making in Government Information Technology (IT), including: (i) emerging Federal budgetary certainty, (ii) sustained commitment to IT modernization, and (iii) strong balance sheets of industry participants getting stronger. At that time, we mused about how long the expansion of M&A activity in the current cycle would last while noting that elements promoting a strong 2019 remained in place—and 2019 did not disappoint. Throughout the calendar year, a total of 78 transactions were closed, an extraordinary increase of 24% from the previous year’s record level. The strength of market sentiment in 2019 also witnessed the continuation of larger transformational transactions, albeit, at a reduced level due to a dearth of scaled targets.

Before the extraordinary events of COVID-19, which we strive to bring some perspective to in the sections below, the preceding fourteen months had extended fiscal certainty to the Federal marketplace. The FY2020 appropriations bills that were passed and signed into law on December 20, 2019 included a \$738 billion defense budget and an estimated \$112 billion in Federal IT spending focused on transformational modernization initiatives such as cloud computing, cybersecurity, data analytics, agile software development, and healthcare IT.



Government IT Services has demonstrated resiliency and an ability to lead out of the trough in the immediate wake of previous economic shocks. There are reasons to believe this will again be the case based on relative strengths.

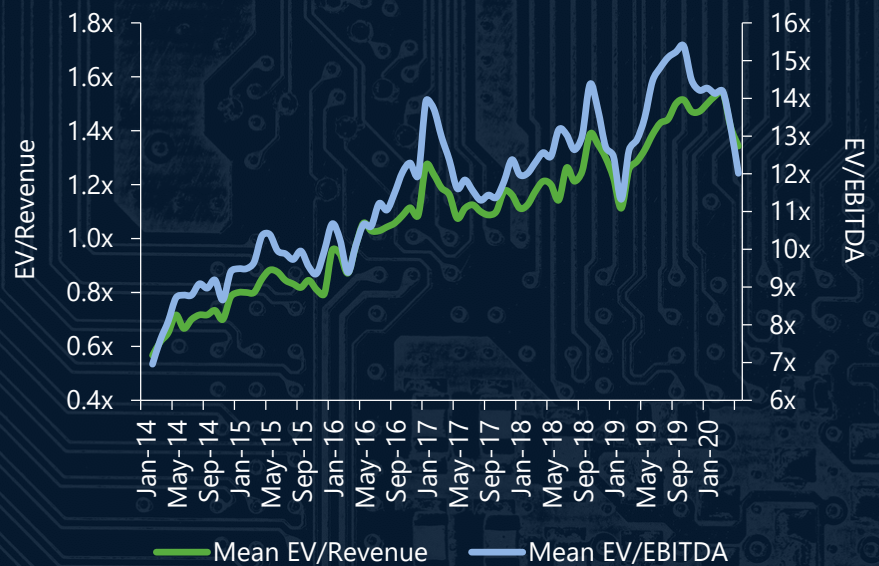
Prior to the COVID-19 induced correction, leading U.S. government services companies had amassed record backlogs (Booz Allen Hamilton [NYSE:BAH] eclipsed \$22 billion and CACI's increased 61% year over year), leading to renewed investor confidence in the sector. Over the course of the 2019, mean EV/EBITDA trading multiples expanded from 11.3x to more than 15x in the fourth quarter. The recent performance of newly public Perspecta (NYSE: PRSP) and Pacific Architects and Engineers' (Nasdaq:PAE) reverse merger with Gores Holdings to create a publicly listed company with a \$1.55 billion enterprise value (closed February 2019) were further testaments to the strength of the public markets..

TRANSFORMATIONAL M&A: PORTFOLIO SHAPING AT SCALE

Building on the momentum created by consistent fiscal support and robust investor confidence, leading government IT firms completed the final stage of the current multi-year cycle of large-scale consolidation by rounding out their service portfolios. Following 2018's \$18 billion in transformational transactions, five additional deals were closed in 2019 aggregating \$7.4 billion in value.

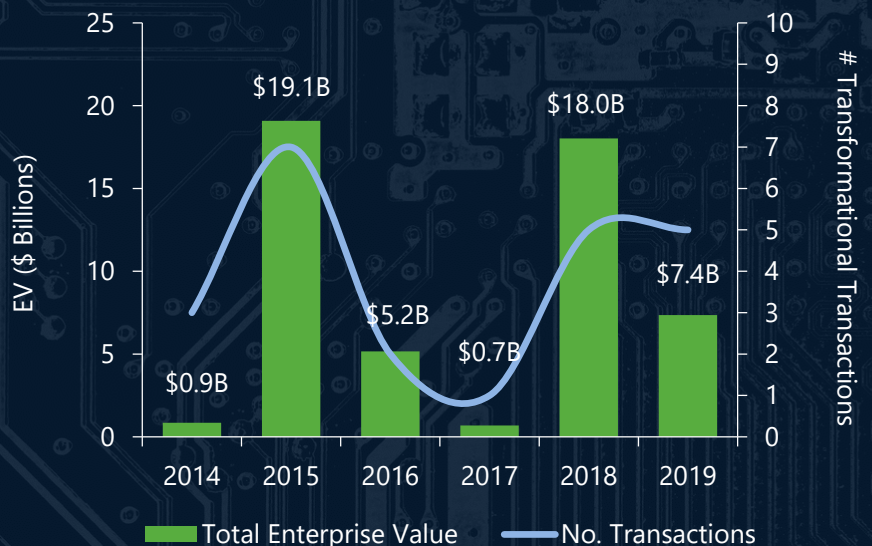
Transformational deals completed over the course of the year included CACI's simultaneous acquisition of LGS and Mastadon (profiled in last year's report, the deals have proved accretive), Jacobs Engineering's acquisition of the sometimes troubled but desirable intelligence business of KeyW for \$921 million, and the divestiture of AECOM's (NYSE:ACM) Management Services Business, considered non-core to the commercial engineering giant, to Lindsay Golberg and American Securities for \$2.4 billion (closed January 2020). The back half of the year saw previously mentioned Leidos' acquisition of Dynetics for \$1.65 billion. This last adding significant capabilities in scientific engineering and space disciplines and a strategic presence in Huntsville, AL. SAIC's acquisition of Unisys' Federal business likely represents the last of the transformational transactions we will see for a time as uncertainty descends on the sector.

Publicly Traded USG Services Index Valuation



Source: Capital IQ

Transformational Transaction Volume and Value



Source: Capital IQ

One for the History Books

A year ago, we noted a brisk uptick in M&A activity in the Government IT sector through the first quarter of 2019 and wondered aloud how long the market would hold up. With the fiscal picture coming into focus as the months progressed, particularly as it related to defense spending, the pace not only sustained, it accelerated. When the dust settled in January, 78 M&A transactions were completed in the space, representing an astounding 24% increase on 2018's previous record year, and the most active year in more than a decade. Activity in January and February 2020 continued, and while CGI Federal was able to complete its acquisition of TeraThink in late March, the onset of COVID-19 and the impact of draconian nationwide mitigation measures has dramatically slowed the environment.

Government IT Services: Transformational Transactions

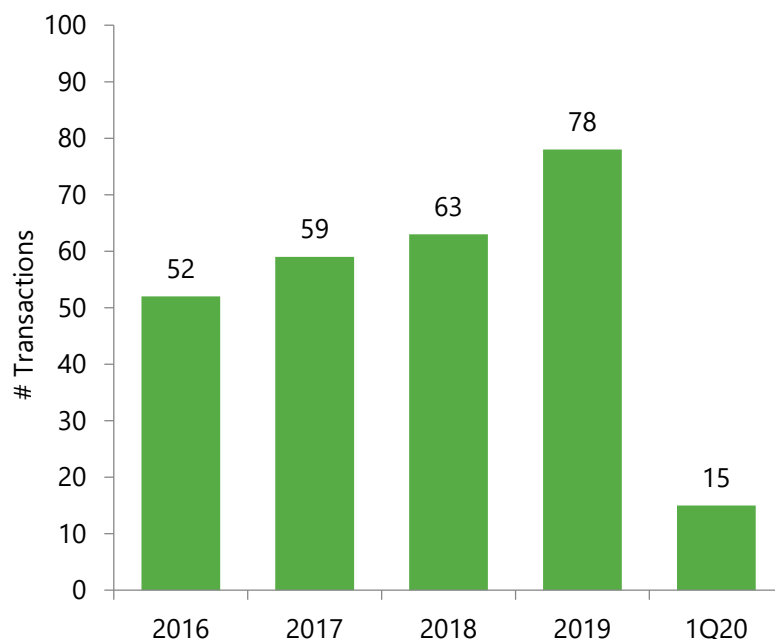
January 2014 – February 2020, In Millions

Date					Pro Forma TTM		EBITDA	EV/TTM		
Closed	Type	Target	Buyer	Seller	Rev	EBITDA	Margin %	EV	Rev	EBITDA
Feb-20	M&A	SAIC	Unisys Federal	Unisys	\$689	\$92	13.4%	\$1,200	1.7x	13.0x
Dec-19	M&A	Dynetics	Leidos	Private	\$1,000	undisc.	undisc.	\$1,650	1.7x	undisc.
Nov-19	M&A	PAE	Gores Holdings (SPAC)	Platinum Equity	\$2,739	\$145	5.3%	\$1,550	0.6x	10.7x
Oct-19	M&A	AECOM Managed Services	LG / American Securities	AECOM	\$3,700	\$200	5.4%	\$2,400	0.6x	12.0x
Apr-19	M&A	KeyW	Jacobs Engineering	Public Madison / CoVant	\$495	\$39	7.8%	\$921	1.9x	23.8x
Mar-19	M&A	LGS / Mastadon	CACI		\$480	\$82	17.1%	\$835	1.7x	10.2x
Sep-18	M&A	Engility	SAIC	Public	\$1,917	\$178	9.3%	\$2,450	1.3x	13.7x
Jun-18	IPO	Perspecta	IPO	Veritas Capital	\$4,200	\$683	16.3%	\$4,422	1.1x	6.5x
May-18	M&A	PWC Public Sector	Veritas Capital	PWC	\$451	\$60	13.3%	undisc.	undisc.	undisc.
Apr-18	M&A	General Dynamics	CSRA	Public	\$5,064	\$841	16.6%	\$9,871	1.9x	11.7x
Feb-18	M&A	ECS Federal	On Assignment	Private/LG	\$586	\$70	12.0%	\$775	1.3x	11.0x
Apr-17	M&A	Harris IT Services	Veritas Capital	Harris Corp	\$1,070	\$86	8.0%	\$690	0.6x	8.1x
Aug-16	M&A	LM IS&GS	Leidos	LM	\$5,140	\$488	9.5%	\$4,600	0.9x	9.4x
Feb-16	M&A	L-3 NSS	CACI	L-3	\$1,032	\$68	6.6%	\$561	0.5x	10.6x
Nov-15	IPO	CSRA	IPO	CSC	\$5,459	\$909	16.7%	\$8,207	1.5x	9.0x
Aug-15	M&A	SRA	SRA International	CSCGov	\$1,400	\$196	14.0%	\$1,390	1.0x	10.6x
Aug-15	M&A	Novetta	Carlyle	ACP	undisc.	undisc.	undisc.	undisc.	undisc.	undisc.
May-15	M&A	Websense	Raytheon	Vista Equity	\$375	\$75	20.0%	\$2,300	6.1x	30.7x
May-15	M&A	Exelis	Harris	Public	\$3,277	\$515	15.7%	\$4,730	1.4x	9.2x
May-15	M&A	Scitor	SAIC	LG&P	\$604	\$91	15.0%	\$961	1.6x	10.6x
Feb-15	M&A	TASC	Engility	KKR/GA	\$1,100	\$90	8.2%	\$1,100	1.0x	12.2x
Nov-14	M&A	Blackbird	Raytheon	Private	undisc.	undisc.	undisc.	\$420	undisc.	undisc.
Sep-14	IPO	Vectrus	IPO	Exelis	\$1,245	\$69	5.5%	\$219	0.2x	3.2x
May-14	M&A	QinetiQ NA	Vencore	QinetiQ	\$740	\$38	5.1%	\$215	0.3x	5.7x
Sep-13	IPO	Leidos	IPO	SAIC	\$6,307	\$822	13.0%	\$4,773	0.8x	5.8x

Source: Capital IQ and Capstone Headwaters Research

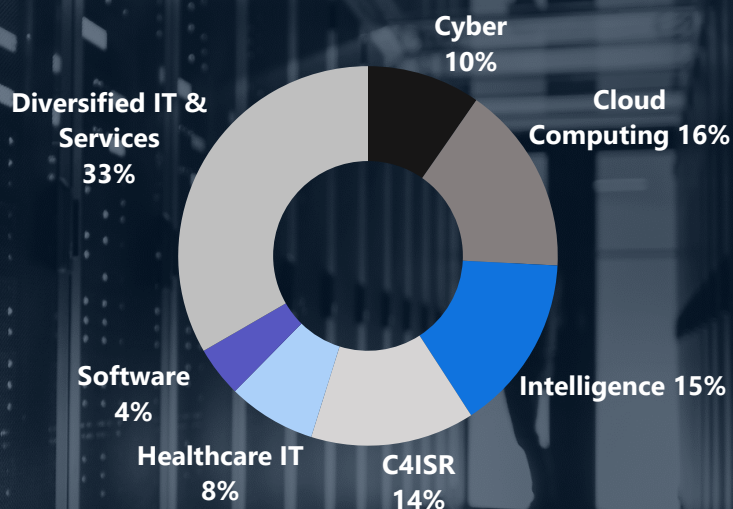
In last year's report we noted the continuation of a multi-year trend toward larger transactions that targeted organizations with diversified IT and service portfolios. In 2018, these transactions comprised 43% of deals announced. Over the course of 2019, this portion has dropped to just a third, signaling the passing of a maturation peak, and a renewed emphasis on niche acquisitions focused on the areas of highest growth within the IT budgets. These include cloud migration and computing, data analytics including artificial intelligence, machine learning and development operations, cybersecurity and cyber operations, intelligence operations, C4ISR engineering, and healthcare IT.

U.S. Government IT Services M&A Transactions by Volume



Source: Capital IQ, Company earnings reports and press releases, Capstone Headwaters analysis

U.S. Government IT Services M&A Transactions by Subsector January 2019 – March 2020

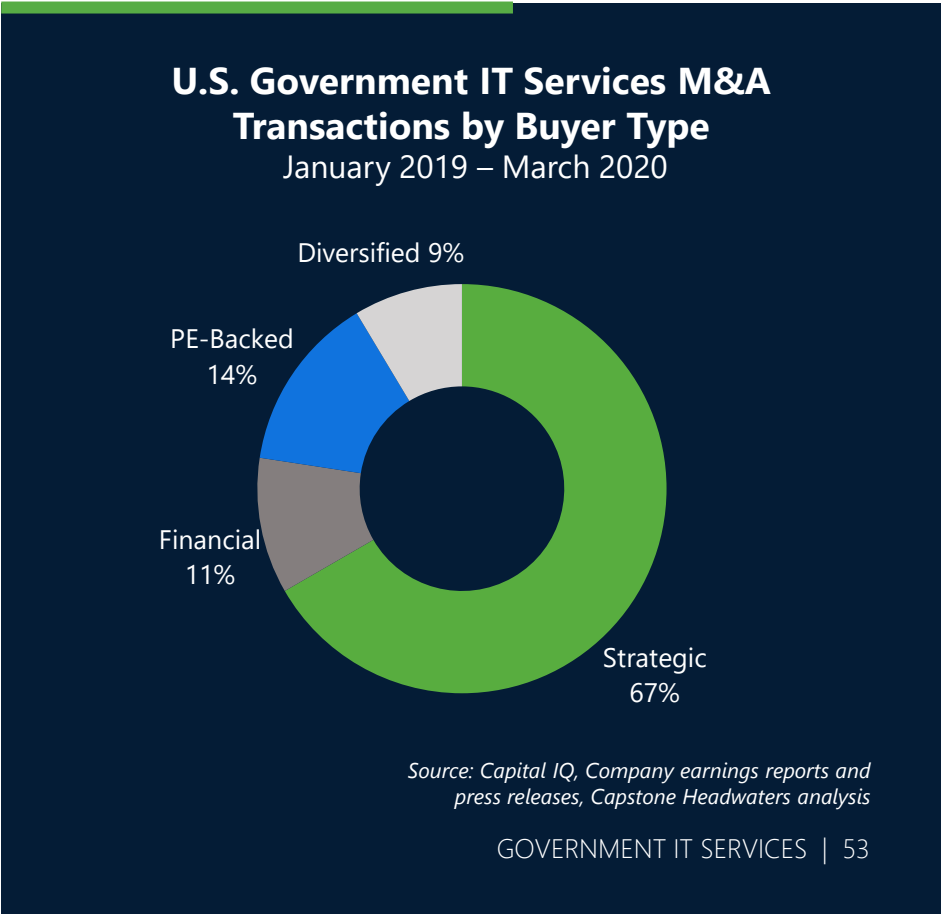


Source: Capital IQ, Company earnings reports and press releases, Capstone Headwaters analysis

While the aggregate Federal IT budget is forecast to grow at 2.2% annually from \$112 billion in FY2020 to \$116 billion by FY2024, there are several subsegments exhibiting significantly higher growth that feature disruptive capabilities seeded by high performing middle market companies. Over the course of the last fourteen months, these areas have driven increased strategic interest:

- ▶ **Cloud Computing:** Emerging consistency in Federal directives regarding use cases and security protocols for cloud applications have unleashed a flood of activity in this segment. The swirling controversy surrounding the \$10 billion JEDI contract is just one example of the substantial cloud computing contract actions across the Federal space. The newly urgent demand for Work From Home (WFH) platforms amid COVID-19 only serves to accelerate activity. Conservative estimates call for 11% annual growth in this segment to more than \$9.1 billion in FY2024 and we would not be surprised to see this level eclipsed in just two years. Cloud computing specialists comprised more than 16% of the deals closed since January 2019 and it should be noted that many of those in the “diversified category” also contain cloud computing service offerings in their portfolios.
- ▶ **Intelligence Operations and Support:** We have discussed in these pages the unique contracting approaches taken by the Intelligence Community (IC) that drive innovation within its contracting base. These include leveraging the security credentials and unique technical expertise resident in smaller firms to drive innovation through prime contracts. The FY2020 budget increased IC spending 5% over FY2019 levels, to \$85.75 billion. Intelligence firms made up 15% of the deals since January 2019, representing continued strength in the subsegment.
- ▶ **C4ISR:** The Command, Control, Communication, Computers, Intelligence and Surveillance is perennially of interest to strategic acquirers in the Federal space due to the sustainable competitive differentiation its players exhibit and the primacy of the mission within the context of next generation warfare. This focus has deepened as long-term investment priorities are established in the Future Years Defense Program (FYDP). Space technologies, emerging networked communications, hypersonic technologies and others demand unique scientific, software and engineering capabilities that highly coveted. Pure play C4ISR deals accounted for 14% of deals closed over 2019, up from 11% a year ago.
- ▶ **Cybersecurity and Operations:** Due to the urgency of responding to the dynamic threat environment posed by near ubiquitous adversarial cyber operations, cybersecurity and cyber operations continue to be an area of keen focus. With annual Federal cyber budget pushing past \$20 billion (beating all previous forecasts) and set to continue to grow 5% annually, talent and expertise is at a high premium. Pure play cyber transactions accounted for 10% of the deals closed over the past year, up from 8% a year ago. As in past years, however, cyber capabilities are also featured in many of the more diversified firms acquired.

When we analyze completed deals by buyer type, we note a significant shift toward both strategic buyers and those backed by private equity (which we find exhibit behavior every bit as competitive in our sell side processes) and away from pure financial investors and diversified players from outside the industry. In fact, pure play strategic buyers comprised more than two thirds of the transactions closed, up from 56% a year ago. Active strategic buyers included CACI (LGS, Mastadon, Next Century, Deep3), ASGN/ECS (DHA, Blackstone Federal), Leidos (IMX Medical, Dynetics) and Tetra Tech (eGlobalTech, Segue). Private equity-backed platform companies closed 14% of the deals, up from 4% last year. Diversified strategic buyers purchased just 9%, down from 27% last year. Private equity accounted for just 11% of deals closed. As in previous periods, the private equity firms that were most active were primarily those that specialize in the sector, such as Veritas Capital, Arlington Capital (Centauri) AE Industrial (Gryphon), and Enlightenment Capital.



2020 M&A OUTLOOK: RESILIENCE WILL BE TESTED

2019 was a record setting year for M&A transactions in the government IT and services sector, and we may not see this sort of volume for some time to come. The rapid pace of deal making was built on a foundation of strong fundamentals and accommodating capital markets that combined to boost valuations to record highs. Capstone Headwater's own sell side processes over this time period speak to the robust competition for well positioned companies with desirable capabilities, contracts and customer relationships. The pivot to 2020 could not be more dramatic, however. The onset of the public health crisis precipitated by COVID-19 is just now starting to bite. From first, to second, to third order affects, uncertainty clouds the current outlook.

While pain is real and felt throughout every sector of the economy, there are reasons to believe that the government IT services sector will fare relatively better than most. Some of the positive signs we are witnessing and take note of are:

- ▶ **Essential work classification:** Much of the work performed by the government contracting workforce has been deemed essential to the operation of client agencies and for national defense. This work continues with minimal disruption.
- ▶ **Collaboration by both government and industry:** To date, government management and procurement officials have stepped forward to aid industry, extending progress payments to maximize cash flow to contractors and working to rapidly institute telecommuting protocols to allow work to continue.
- ▶ **Strong balance sheets:** The leading government services contractors are in a strong position to weather the coming storm. As a group, net debt is less than 3x TTM EBITDA and they hold more than \$1.7 billion in cash.

In navigating this period of unprecedented dislocation, it may also be helpful to look to history to gain perspective. One element of the current crisis that is knowable, albeit within wide bands of probability weighted outcomes, is that the acute period will be time-bounded, by both the incubation of the corona virus and the levels of community spread in regions of the country. In certain circles, there has been discussion of whether the current correction will be more "9/11" or more "2008." That is to say, is COVID-19 a dramatic one-time event that is painful but that we recover from relatively quickly or has the virus either exposed or disrupted economic activity to such a degree that we experience a prolonged downturn. In order to try to shed some light on the pathway, we examined both scenarios.

The "9/11 Scenario"

After the terror attacks of 11 September 2001, the broader equity markets suffered a dramatic sell off and struggled to regain positive territory in the months after, prompting the Federal Reserve to cut rates to (at the time) historic lows. However, by the end of 2001, US government services contractors had rebounded strongly on the strength of their fundamental businesses despite the broader pullback. In this scenario, the sector was a haven for investors.



The "2008 Scenario"

Which begs the question of what the impact might be if the current situation devolves into a prolonged recession along the lines of what we experienced in 2008 – 2009 during the Great Recession. During that period, the sector initially suffered along with the broader markets. However, by the end of 2008, USG services contractors began to separate from the wider economy on the relative resilience of the Federal business base, in effect leading the way out of the trough.

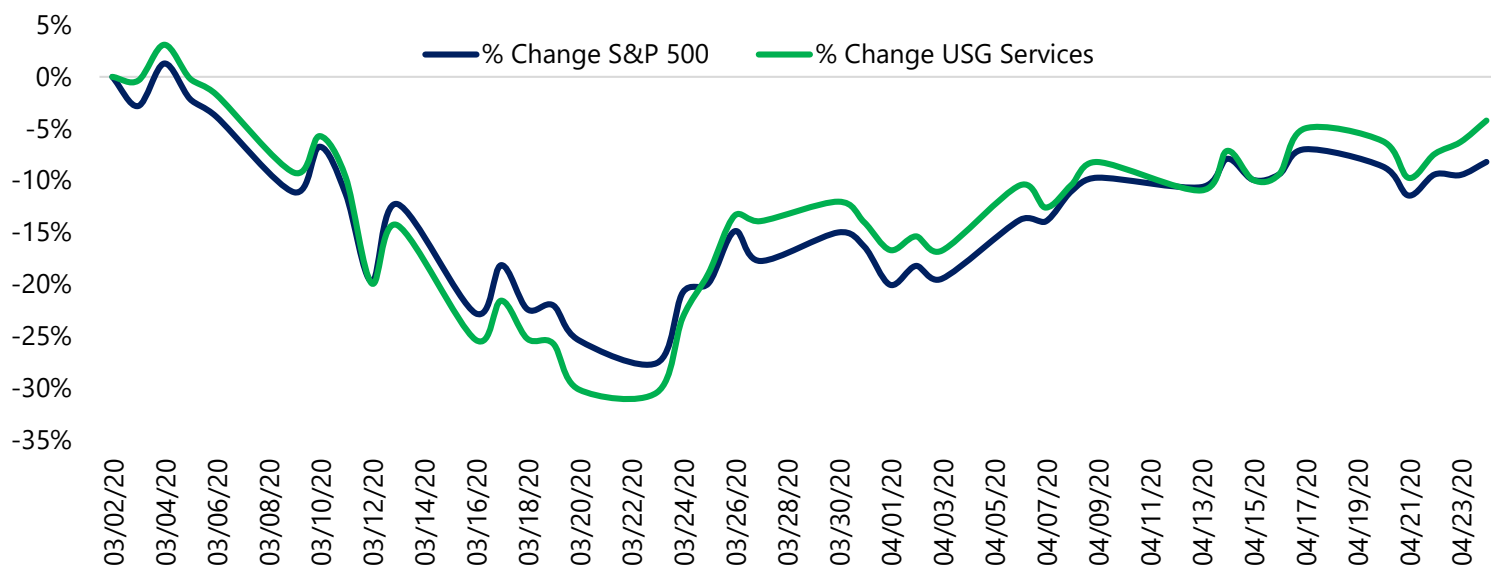


With history as our guide, and with perspective on the crisis as a painful but inevitably manageable public health policy matter, we can reasonably anticipate that the Government IT Services industry will demonstrate relative resilience in the face of these extraordinary exogenous shocks.

As of the drafting of this document, uncertainty persists. Public company valuations in the sector have already contracted to levels not seen since early 2018. With history as our guide, and with perspective on the crisis as a painful but inevitably manageable public health policy matter, we can reasonably anticipate that the government IT services sector will demonstrate relative resilience in the face of these extraordinary exogenous shocks. While it is certainly too early to draw conclusions, if we look at equity returns since March 1, there is a hint that the sector may again be demonstrating this resiliency, as the USG services index is outpacing the broader market by 400 basis points.

The implications for middle market M&A in the sector are, of course, significant. We are already managing process timing delays and confronting hard economic choices. A temporary lack of debt capital further complicates activity. During this uncertain period it has been prudent to narrow our field of view to the parameters that come into focus on a day to day and week to week basis, and to recalibrate risk accordingly. When engaged in strategic planning, however, it is necessary to step back and think in terms of what the next quarter (or two) may hold. From this vantage point, we are beginning to grasp the outlines of an emerging opportunity set defined by relative resilience. M&A processes we have in the market are notably progressing and vested strategic buyers and private equity are still active pursuing opportunities. As ever, we find strength in the exceptional companies we are privileged to represent and the bold character of their management teams.

Market Returns, USG Services Index vs. S&P 500



CYBERSECURITY

09

GROWTH CONTINUES

Heightened device connectivity, expansion of internet of things (IoT) applications, and rising cloud migration has fueled demand for advanced cybersecurity solutions that reduce vulnerabilities and counter network attacks.

As businesses across all sectors continue to digitize information technology (IT) infrastructure to drive efficiencies and deliver value to customers, cyber criminals and nation state actors utilize increasing sophisticated tactics and strategies to steal mission critical data and information. In the midst of mounting cyber concerns, cybersecurity operators providing more automated and better integrated security solutions have garnered elevated buyer interest and commanded premium valuations.

Transaction activity in the Cybersecurity industry closed out 2019 with a historic number of deals announced or completed, registering a 40% increase in deal volume in Q4 2019 year-over-year (YOY).



Reflecting mounting cyber concerns and better integrated solutions garnered elevated buyer interest and commanded premium valuations. M&A in the cybersecurity industry increased 40% in 2019

COVID-19 IMPACT:

Operations

The COVID-19 crisis has had a mixed impact on cybersecurity companies. Generally, cybersecurity has become a mission critical “must have” for all public and private sector organizations and attackers are not taking a hiatus to allow the world to focus on maintaining physical health.

In addition, the work from home (WFH) phenomena and the trend towards a more distributed workforce, is accelerating cybersecurity revenue opportunities. Many organizations are attempting to maintain normalized operations while protecting their workers and complying with government restrictions through WFH. While many office workers are able to maintain productivity at home with proper IT equipment and connectivity, this workplace reconfiguration creates new vulnerabilities and, in many instances, requires incremental investments in cyber defenses.

While demand for cybersecurity services remains robust, customers that are impacted by the economic downturn may have trouble meeting their vendor payment obligations. In addition, the cancellation of trade shows plus travel restrictions may impact a cybersecurity company's ability to fill its sales pipeline.

Overall, the cybersecurity industry and its related compliance and risk management segments, are weathering the COVID-19 storm much better than many other sectors of the economy.

Cybersecurity Mergers & Acquisitions

► Private Equity:

Private equity groups are maintaining an active posture and seeking opportunities which may be created by the COVID-19 crisis. While Partners may be spending additional time working with their portfolio companies to make sure they survive the crisis, dedicated business development teams remain active with sourcing. These groups have billions of dollars in dry powder to put to work with five to 10 year investment horizons so today's turmoil may create more favorable pricing dynamics. That said, the overall stretch on organizational resources does tend to increase response time and private equity may be surprised to find that sellers expect pricing to be consistent with pre-crisis levels viewing the COVID-19 downturn as more of a “proforma adjustment.”

► Strategic Buyers:

Executives at acquisitive strategics are generally finding it necessary to tend to their flocks in this time of need. The operational challenges of reconfiguring the workforce to a WFH model while continuing to maintain highest levels of customer service is anecdotally proving to be a challenge. Consequently, there is less time to spend on evaluating strategic acquisitions and some, but not all, companies have placed temporary moratoriums on M&A activity. Transactions which have been in the pipeline for some time and are near Closing may continue assuming minimal degradation in performance. Overall, it is a company specific determination as to whether corporate development initiatives are continuing.

As noted earlier, the general resilience of the cybersecurity sector to the economic downturn is supporting continued transaction activity for those that have the resources to pursue deals.

Cybersecurity has become a critical 'must have' for public and private sector organizations.

Attackers are not taking a hiatus to allow the world to focus on maintaining physical health.

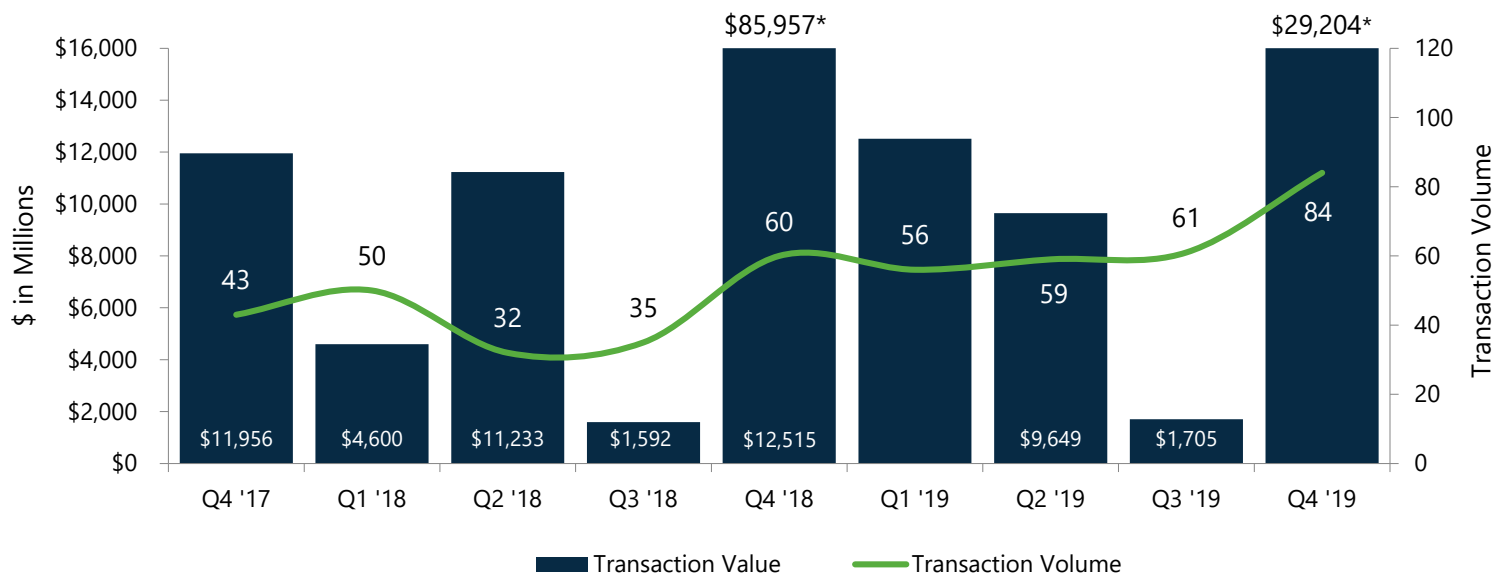
Work from home and trends towards a more distributed workforce are creating new vulnerabilities

M&A OVERVIEW

M&A activity in the Cybersecurity industry continued at a robust pace ahead of prior years. In 2019, transaction volume eclipsed 2018 levels with 260 transactions announced or completed, totaling \$53.1 billion in disclosed deal value.

Strategic buyers continued to comprise the majority of transactions (68.7%), while private equity buyers (31.3%) have displayed continued interest in utilizing add-on acquisitions to expand the offerings and geographic reach of portfolio companies, which accounted for nearly 23% of total transactions.

M&A Activity: Cybersecurity Industry



* = Not to scale
Source: Capital IQ



has been acquired by



- ▶ Capstone Headwaters advises Revolutionary Security on its Sale to Accenture LLP (NYSE: CAN)
- ▶ April 2020
- ▶ [Read press release](#)

Revolutionary Security provides Accenture's clients with greater end-to-end solutions, particularly regarding more complex IT (information technology) and OT (operational technology) cybersecurity challenges. Terms of the deal were confidential.



has been acquired by



- ▶ Capstone Headwaters Advises Rook Security on Its Acquisition by Sophos (LSE: SOPH)
- ▶ June 2019
- ▶ [Read press release](#)

Rook Security is a pioneer and leader in managed detection and response (MDR) and enables Sophos to create re-sellable MDR services by combining its capabilities with its DarkBytes technology platform. Terms of the deal were confidential.

NOTABLE TRANSACTIONS



- ▶ An investor group led by Symphony Technology Group, Ontario Teachers' Pension Plan Board, and Alpinvest Partners has agreed to acquire RSA Security from Dell Technologies (NYSE:DELL) for an EV of \$2.1bn (February 2020). RSA plans to leverage Symphony's capabilities and resources to advance its digital risk strategies/expand its customer base.



- ▶ F5 Networks (Nasdaq:FFIV) has acquired leading online fraud and abuse prevention provider, Shape Security, Inc., for an EV of \$1.0bn, equivalent to 17.1x revenue (January 2020). Shape Security adds a comprehensive suite of application security solutions utilizing artificial intelligence and analytics.



- ▶ Palo Alto Networks (NYSE:PANW), a leading global cybersecurity provider, has acquired Aporeto Inc. for an EV of \$150m (December 2019). The acquisition enhances Palo Alto's Prisma Cloud capabilities by leveraging Aporeto's machine identity technology, adding to its robust cloud security solutions.



- ▶ OpenText Corporation (Nasdaq:OTEX) has acquired leading provider of cloud-based subscription data protection, endpoint security, and disaster recovery solutions, Carbonite, for an EV of \$1.4bn or 3.4x revenue (December 2019). The acquisition allows OpenText to establish more extensive enterprise information management services to small and medium-sized businesses.



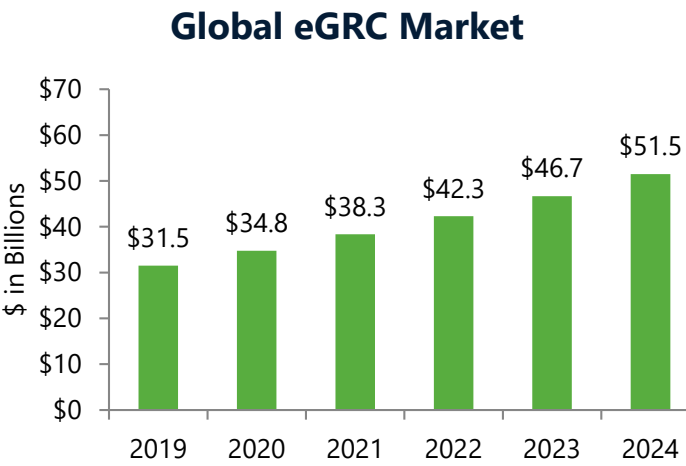
- ▶ Accenture (NYSE:ACN) has agreed to acquire Symantec's Cybersecurity Services business from Broadcom Inc. (Nasdaq:AVGO) for an EV of \$10.7bn, equivalent to 4.6x revenue (November 2019). This significantly expands its footprint in mission critical infrastructure software by integrating Symantec's robust endpoint, cloud, and web security services.

SEGMENT HIGHLIGHT: COMPLIANCE UPDATE

Rising cyber attacks on businesses and consumers have prompted lawmakers to enact legislation targeting the protection and sharing of personal data. Europe’s General Data Protection Regulation (GDPR) created a pathway for consumer privacy protections when it became law in 2018 and the newly implemented California Consumer Privacy Act (CCPA) draws several parallels to its European counterpart. The CCPA grants California consumers the right to know what personal data is collected, delete personal information held by businesses, opt out of the sale of personal information, and the right to non discrimination in terms of price or service when exercising a privacy right. The act is projected to protect over \$12 billion worth of personal information that is used for advertising in California each year, according to Berkeley Economic Advising and Research, LLC.³⁰

Regulatory penalties regarding data breach incidents and data privacy violations have encouraged businesses across all industries to refine their cybersecurity operations. Cyber operators providing resilient data security platforms and regulatory expertise are poised to capture increased demand as CCPA compliance costs are projected to reach up to \$16.5 billion by 2030. In addition, data privacy regulations such as CCPA and GDPR have contributed towards the growth of the Enterprise Governance, Risk and Compliance (eGRC) market, which is expected to exceed \$51 billion by 2024, growing at a compound annual rate of 10.3%, according to Markets and Markets.³¹

Transaction volume in 2019 was supported by growing initiatives towards regulatory adherence and data privacy as strategic buyers sought operators offering compliance services as one of their core competencies. Notably, NAVEX Global, a premier ethics and compliance software and services firm, acquired leading risk management software solutions provider LockPath, Inc. (August, undisclosed). LockPath offers extensive governance, risk, and compliance solutions for companies of various sizes. The transaction significantly enhances NAVEX’s eGRC offerings, integrating both compliance services and risk management solutions.



Source: Markets and Markets

CCPA vs GDPR

Rights	CCPA	GDPR
Scope	California residents personal data collected	EU personal data processed
Access	Right to access personal data collected in past 12 months	Right to access all EU personal data processed
Correction	No right to correction clause included	Right to correct errors in EU personal data processed
Processing	Right to opt-out of selling personal data	Right to withdraw consent of processing EU personal data
Erasure	Right to erasure, under certain conditions	Right to erasure, under certain conditions
Equal services & price	Right to equal services and price required	Right to equal services and price implicitly required
Action damages	\$100 - \$750 per consumer per data breach incident	No floor or ceiling on private right of action damages
Enforcement penalties	Up to \$2,500 per unintentional violation; \$7,500 per intentional	Ceiling of 4% of global annual revenues

Source: PricewaterhouseCoopers



- ▶ Capstone Headwaters Advises Backbone Consultants on Its Acquisition by Cynergis Tek (AMEX:CTEK)
- ▶ October 2019
- ▶ [Read press release](#)

CTEK, a leader in cybersecurity, privacy and compliance, will focus on cross-selling Backbone’s IT (risk advisory services to existing clients, leverage its back office capabilities to bring more support to the Backbone team, and look to convert Backbone’s annual audits into a managed service. Deal terms were confidential.

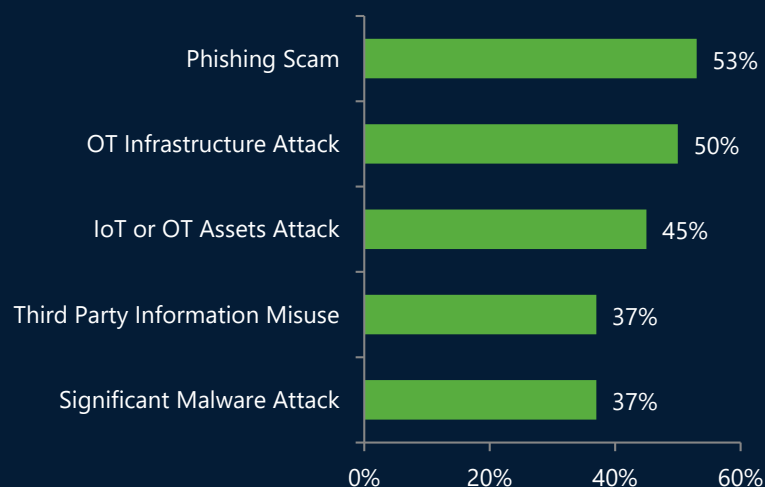
SEGMENT HIGHLIGHT: OPERATIONAL TECHNOLOGY & INDUSTRIAL CONTROL SYSTEMS

The digitization of operational technology (OT) among critical infrastructure and industrial operators has promoted increased automation, efficiency, and data transparency. The continual convergence of information technology (IT) and OT has driven advancements in industrial control systems (ICS) through the integration of data analytics and machine learning capabilities. However, it has also broadened the penetrable vectors for cyber criminals to access ICS and supervisory control and data acquisition systems (SCADA), resulting in 60% of critical infrastructure companies reporting a breach in these networks, according to McKinsey & Company.³² Rise in geopolitical tensions have contributed towards elevated cybersecurity risks among electricity, oil & gas, mining, and public works operators, fostering heightened demand for robust and fully deployable OT and ICS security solutions.

Industrial and critical infrastructure operators increasingly combat the challenge of improving the security of legacy OT systems that are integrated into modern IT networks. Historically, these operators have lagged sectors such as Financial Services and Healthcare in relation to its allocation of their budget towards security. In addition, the severe shortage of qualified cybersecurity professionals has stalled OT operators (businesses dependent on ICS and other OT) efforts to construct and improve the security of operating systems, evidenced by the 4.1 million unfilled positions, according to the (ISC)² Cybersecurity Workforce Study.³³ As a result, outsourced managed security services providers that offer automated and interoperable platforms have attracted increased demand as OT operators look to build resilient operations to prevent and minimize any system disruption caused by a cyber attack.

OT operators continued to face mounting cyber attacks in 2019, with half of industry operators reporting an attack against its OT infrastructure that led to downtime in plant or operational equipment, according to Tenable.³⁴ System downtime, business disruption, and revenue loss are the most costly consequences of a successful cyber attack, with the average cost of lost business for organizations across all sectors in 2019 was \$1.42 million, according to IBM Security.³⁵

Cyber Events Experienced by OT Operators Past 24 Months



Source: Tenable

Operational Technology Cybersecurity 2019 Transaction Activity

Niche operators providing innovative cybersecurity solutions targeting OT infrastructure have attracted healthy buyer interest through 2019. As OT and IT continue to converge and accelerate network complexity, it is paramount for critical infrastructure operators to leverage robust OT visibility, security, and control.

- ▶ Notably, global cybersecurity provider Tenable Holdings, Inc (Nasdaq:TENB) acquired Indegy in December for an enterprise value of \$78 million. Indegy is a leading OT security platform offering capabilities including vulnerability management, asset inventory, configuration, and threat detection. The acquisition significantly enhances Tenable's suite of services and creates an expansive platform to assess vulnerabilities and protect valuable OT infrastructure.

Large industry players also demonstrated interest towards OT security providers in 2019.

- ▶ In July, Palo Alto Networks (NYSE:PANW) acquired ZingBox, a premier industrial IoT security provider, for an enterprise value of \$75 million.
- ▶ Cisco Systems, Inc. (Nasdaq:CSCO) acquired Sentryo SAS in August for an undisclosed sum. France-based Sentryo offers cybersecurity solutions and asset visibility for industrial control systems. The acquisition significantly enhances Cisco's device visibility offerings in OT environments, providing control systems engineers with greater transparency into the operation and security of their industrial networks.

PUBLIC COMPANY PERFORMANCE

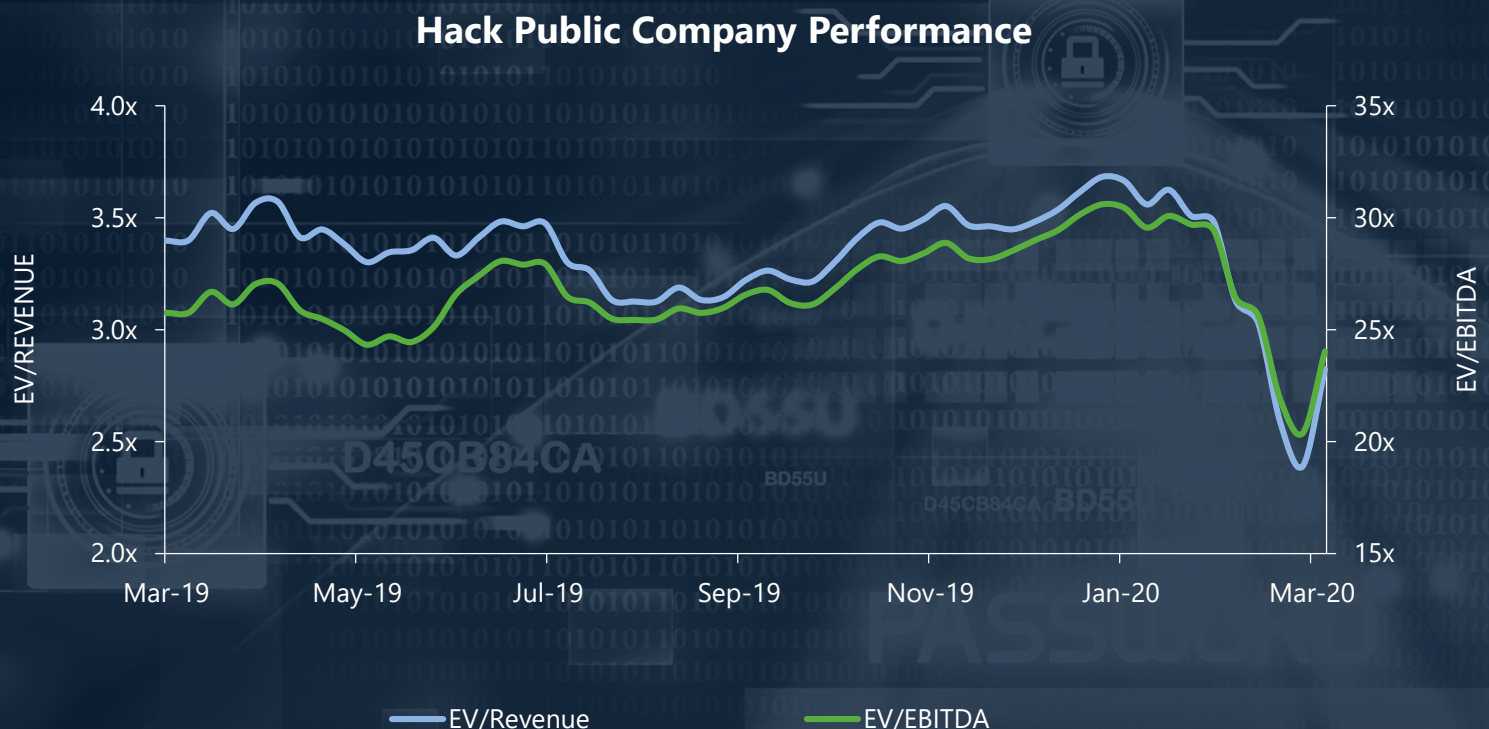
2020 First Quarter Update (COVID-19)

Cybersecurity valuations have declined substantially in the weeks following the outbreak of COVID-19, with HACK ETF revenue and EBITDA multiples falling to 2.8x and 24.0x, respectively, at the end of March. The disruption caused by the pandemic has caused a recoil in global equity markets and forced companies to reassess their balance sheets and budget allocation towards information technology and cybersecurity solutions. In addition the U.S. initial public offering (IPO) market has stalled significantly with market volatility introducing unprecedented headwinds for companies that have accumulated financing in anticipation of a public listing in 2020.

As businesses increasingly move to remote work, most communication and interaction will be accomplished through digital platforms, creating an expanded network of penetrable devices for cyber criminals. Notably, cyber criminals have leveraged the pandemic to infiltrate networks, evidenced by Nuspire's identification of a 100% increase in malicious emails since COVID-19 originated in December.³⁶ The increasing number of companies moving to online platforms presents a substantial security challenge but also a significant opportunity for cybersecurity operators that provide agile and customized solutions that can be installed safely off-premise.

During 2019, public cybersecurity valuations reached heightened valuations, with the underlying holdings in the HACK ETF reporting revenue multiples of 3.5x at year-end, representing a 24.5% increase compared to year-end 2018. EBITDA multiples through 2019 also displayed robust growth among industry players, with public companies registering the highest valuations since September 2018 at 29.1x EBITDA. Notably, Fortinet (Nasdaq:FTNT)³⁷ and Palo Alto Networks (NYSE:PANW)³⁸ achieved double digit YOY growth in revenue and billings, according to their most recent earnings reports.

The U.S. initial public offering (IPO) market slowed relative to 2018, recording 165 IPOs totaling \$50.0 billion in proceeds, with the decline largely attributable to trade tensions and global geopolitical uncertainty, according to Ernst & Young.³⁹ Despite decreased activity, U.S. market fundamentals remain solid with public indices testing all-time highs throughout 2019. Notably, cybersecurity provider Ping Identity (NYSE:PING) has experienced healthy growth since its September 2019 IPO, with total revenue increasing 45% YOY, according to its earnings presentation.⁴⁰



Source: FactSet

FINANCING ACTIVITY

Financing activity through 2019 reached elevated levels with \$7.9 billion in venture capital (VC) allocated towards the Cybersecurity industry, representing a 52% increase YOY. Through YTD 2020, cybersecurity operators fostered 104 VC deals, totaling over \$1.4 billion in funding. Notable cybersecurity VC financings in the second half of 2019 and YTD 2020 include:



- ▶ Netskope, a developer of a cloud security platform, has raised \$340 million in Series G funding led by Sequoia Capital (March 2020, post-money valuation of \$2.8 billion). The company reported 80% growth YOY and claims it is the fastest growing company at scale in the Secure Access Service Edge (SASE) and Cloud Security space.



- ▶ Snyk, a leading provider of software security for open-source code, has raised \$150 million in Series C funding led by Stripes (December 2019, post-money valuation of \$1.0 billion). The investment will accelerate product innovation and allow Snyk to achieve further global scale.



- ▶ Data protection and recovery platform, Acronis, has raised \$147 million in a late stage venture funding round led by Goldman Sachs (September 2019, post-money valuation of \$1.0 billion). Acronis plans to use the growth round to foster inorganic growth and expand engineering teams in Bulgaria, Arizona, and Singapore.

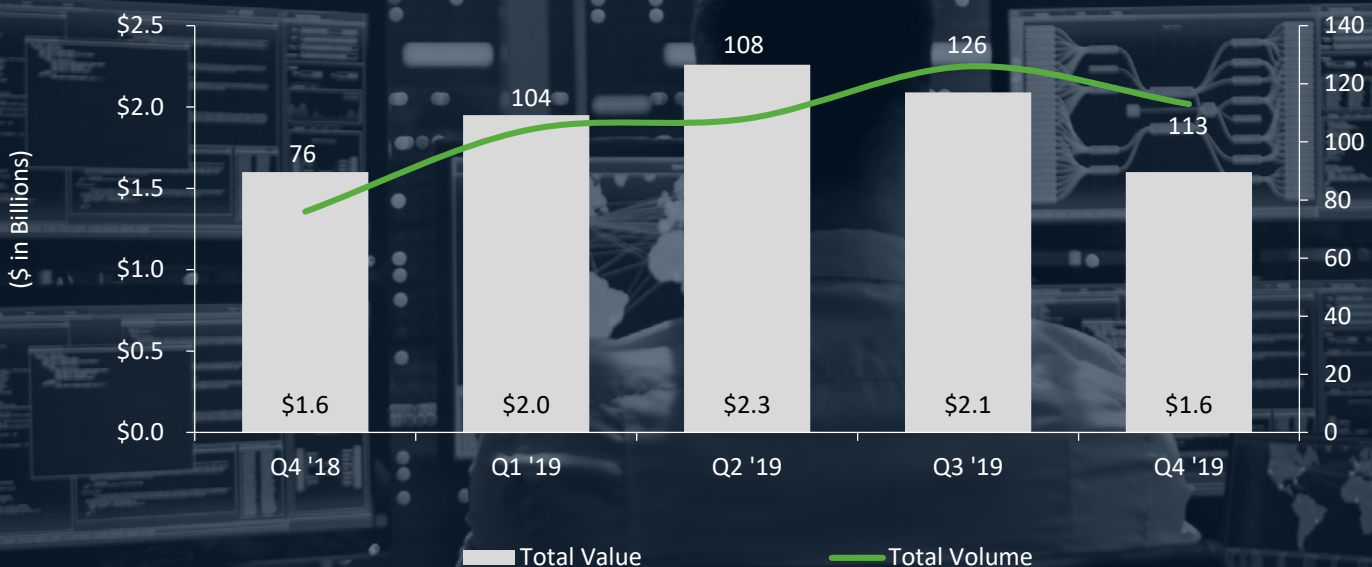


- ▶ Cybereason has raised \$200 million in Series E venture funding from Japan's SoftBank Group (TSE:9984) in August 2019, placing its post-money valuation at \$1.0 billion. Cybereason plans to utilize the newly infused capital to expand its geographic reach and enhance its Endpoint Protection Platform (EPP).



- ▶ OneTrust, a leading privacy, security, and third-party risk technology provider, raised \$200 million of Series A venture funding in an investment led by Insight Partners (July 2019, post-money valuation of \$1.3 billion). The investment allows OneTrust to further serve clients addressing the California Consumer Privacy Rights (CCPA) and GDPR requirements.

Cybersecurity Venture Capital Raises

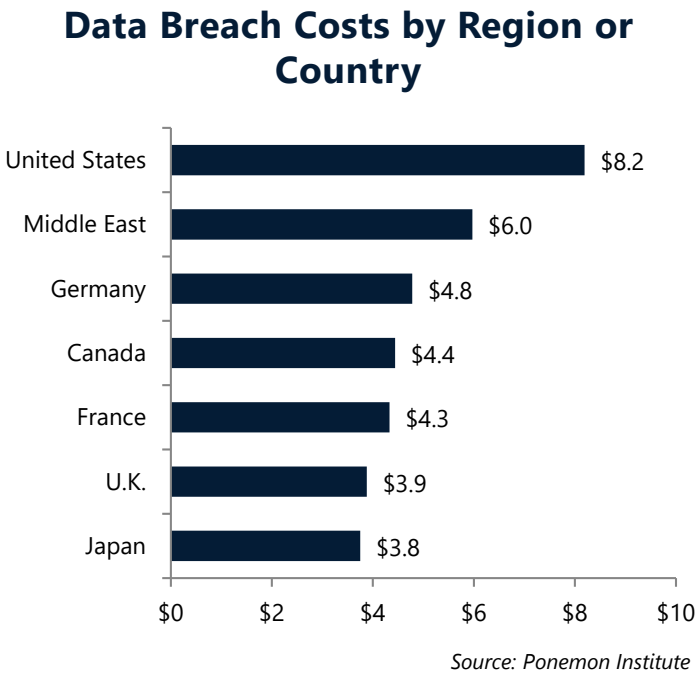
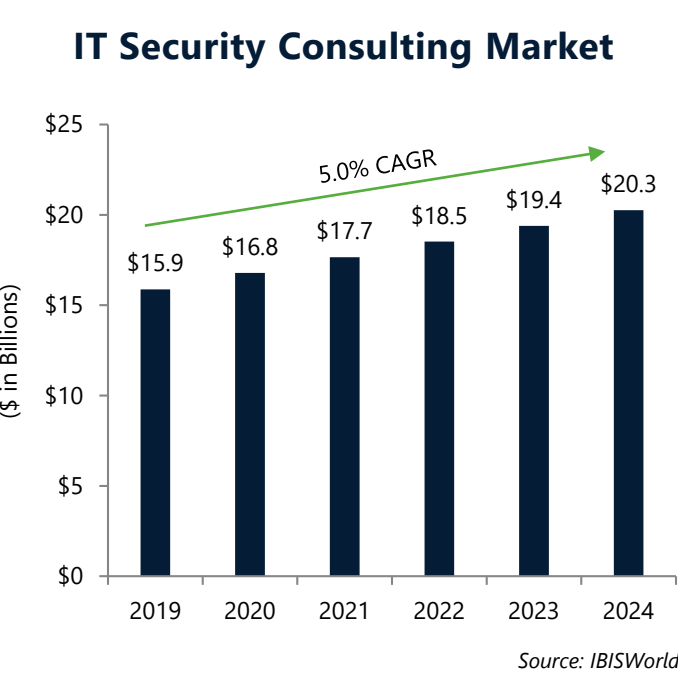


Source: Capital IQ

MARKET OUTLOOK

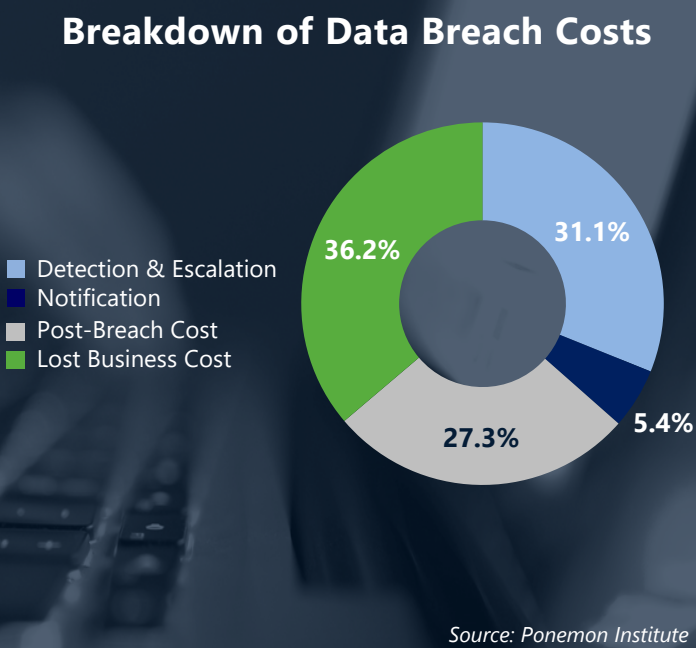
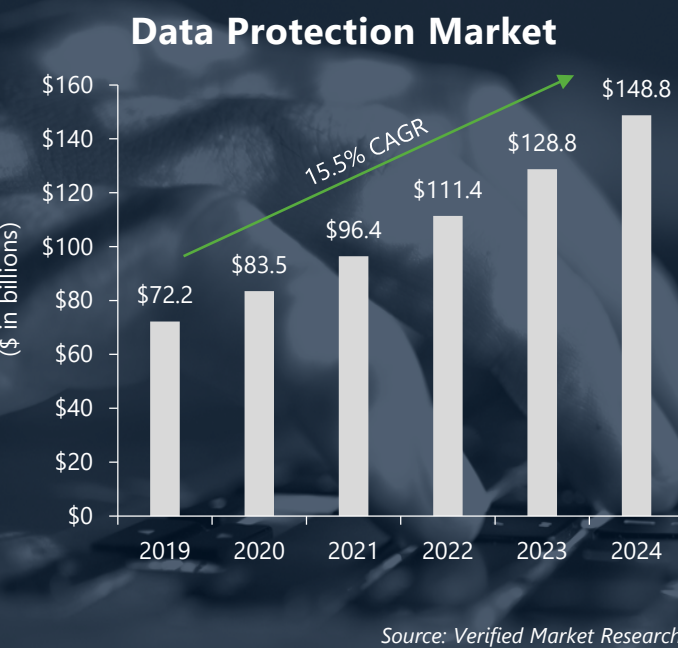
IT Security Consulting Outlook

Increasing sophistication of cyber criminal and nation-state actors has promoted healthy growth forecasts in the IT Security Consulting market as the industry is expected to exceed \$20 billion by 2024, according to IBISWorld.⁴¹



Data Protection Market Outlook

The global Data Protection market is expected to grow at a compound annual rate of 14.1% through 2023 to become a \$125.8 billion industry, according to Verified Market Research.⁴² Operators across all industries face mounting cyber concerns and increased regulatory scrutiny and are expected to deploy robust cyber measures to prevent attacks and mitigate substantial post-breach costs.



SIMULATION & TRAINING

10

SEES WINNERS & LOSERS

TRAINING ACCOMPANIES GROWTH, MODERNIZATION AND READINESS

As this piece is being written, the impact of efforts to contain the Coronavirus are unclear. For a variety of reasons, a pandemic such as this can materially impact the simulation and training marketplace both on a short-term and on a long-term basis. Immediately, it is causing cancellation of activities involving large groups, such as live training activities, and the significant allocation of funding required to support the economy in light of this crisis may well limit the availability of funding for secondary defense-related activities. For these reasons, this unprecedented event may ultimately lead to increased demand for more cost-effective virtual or online training over the long-term as well. Additionally, if it causes prolonged reductions in flight traffic, it will help self-correct an expected shortage of commercial pilots.

Putting aside the many unanswerable questions regarding the impact of the Coronavirus pandemic, the marketplace for aviation training is large and is expected to enjoy healthy growth over the next decade. Key factors driving this outlook include increased FAA requirements (i.e. additional simulator training requirements for 737 MAX pilots), a current shortage of pilots in the armed services, the introduction of new military aircraft programs, the renewed interest in force readiness to support the U.S. National Defense Strategy and increases in mandatory retirements among commercial pilots.

No doubt, commercial pilot demand will be impacted by the Coronavirus and it is likely that pre-virus expectations now appear inflated. Boeing's 2018 Pilot Outlook indicates that North American companies will need to hire 206,000 new pilots over the next 20 years and worldwide commercial aviation demand was projected to require 635,000 new pilots. Less likely to be impacted by the pandemic, U.S. Military Services will require upwards of 75,000 pilots over this same period, with a current pilot shortfall estimated to exceed 3,000.⁴³

Although Simulation & Training will see effects from reduced flight hours and relief from pilot shortages, the underlying shift towards simulation remains, underpinned by compelling economic advantages, military demand and enhanced capabilities

Active Air Force Pilot Shortage Projections



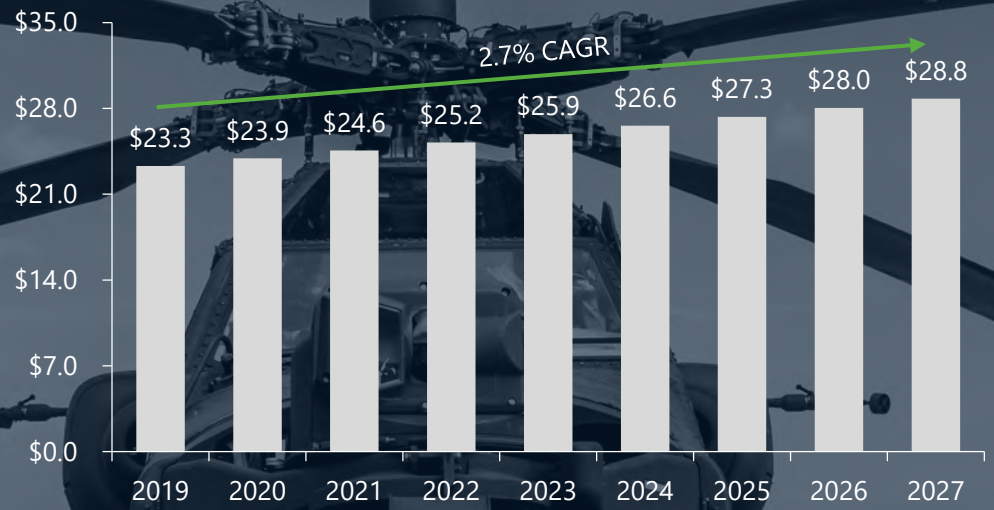
Source: Department of Defense

Training plays a critical role for major, multi-billion military programs and helps the largest defense contractors facilitate sizable equipment sales. The most obvious example today is that United States, alongside numerous partner nations via foreign military sales, is actively purchasing the fifth-generation F-35 joint strike fighter. It is a program expected to exceed \$1 trillion in cost and both pilots and maintainers will require comprehensive training systems, including simulators to complement these purchases. To further this thought, the adjacent chart relates to the military market for helicopters and evidence the size and scope of another one of the markets that training services are supporting. No question, training plays an important role for our nation's economy.

In its most recent budget released in February 2020, the DOD has requested 20.8% increase in funding for training activities relative to FY2017 levels, as the Military is attempting to directly address its pilot shortfalls. This imbalance is attributed to several years of underproduction in pilot training, higher than average attrition among experienced aviators and reduced aircraft readiness. The internal challenges of underproduction and aircraft material readiness have resulted in extended time to train new aviators, a lack of sufficient flight time per pilot, extended and frequent deployments, and other quality of life concerns for aviators, all being issues that the Military is presently seeking to correct.

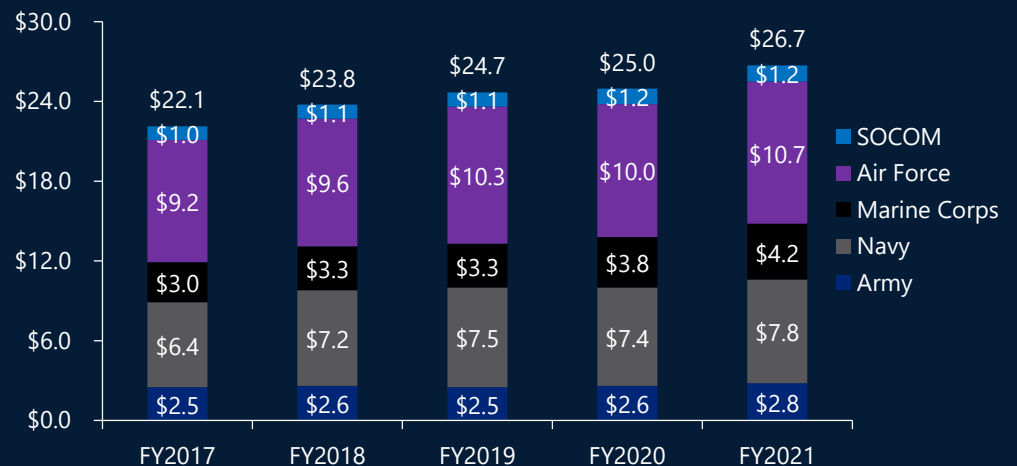
Technology advances continue to facilitate increased adoption of virtual training and simulation activities, and it remains a higher growth component of the industry. The increasing ability to allow trainees to 'suspend disbelief' when using simulators increases their utility and when coupled with the time flexibility, reusability and overall cost effectiveness of virtual training in comparison to live training, it is not surprising to note its higher growth rate.

Global Military Helicopter Market (\$Bn)



Source: MarketWatch

Spending on Aviation Training Programs (\$Bn)



Source: DOD FY2021 Budget, Released February 2020

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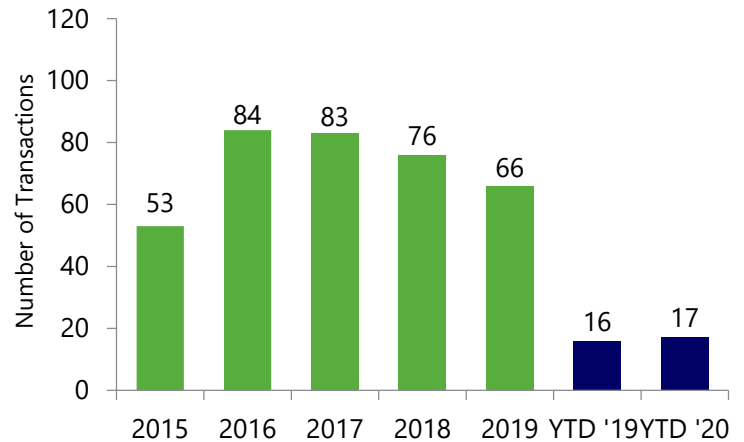
M&A ACTIVITY

From an M&A perspective, we regard the trends regarding deal volume as relatively flat. The statistics do not include businesses that contain simulation and training operations as part of a broader service mix and such entities tend to be larger businesses. Over the near term, we expect that transactional volume should benefit from increases in government spending and the present DOD focus on modernization and readiness.

Select Recent Transactions

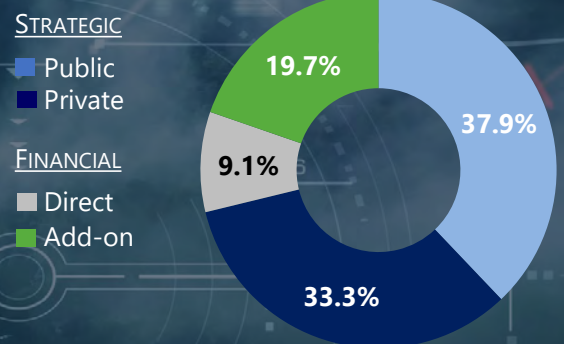
- ▶ In February 2020, United Airlines acquired Westwind School of Aeronautics, a flight training academy based in Phoenix. The company plans to hire 12,000 pilots by 2029 and the acquisition is intended to help ensure that they maintain the ideal number of candidates within their pilot pipeline. It will also help the company recruit, develop and welcome into pilot training those with diverse backgrounds.
- ▶ In September 2019, By Light Professional IT Services, a portfolio holding of Sagewind Capital, acquired Orlando based Cole Engineering Services Inc. (CESI), a developer of simulation-based systems for military missions. "We expect that [CESI] will continue to experience significant growth given the combination of its strong footprint in the modeling, simulation and training market with By Light's comprehensive stable of contract vehicles," said Bob Donahue Jr., the founder and CEO of By Light.⁴⁴
- ▶ In August 2019, CAE continued to acquire related business and purchased SimCom International for \$170mm. SimCom International provides aviation simulator training services to business and general aviation pilots. The company offers personalized training services for jet, turboprop, and piston aircraft. The company also offers aviation maintenance courses and specialty aviation training courses and is based in Orlando.
- ▶ In July 2019, Laerdal Medical Corporation acquired B-Line Medical, a digital solutions company that provides simulation and clinical skills center management solutions. It offers Web-based simulation capture, debrief, and assessment solutions for medical simulation programs.

M&A Activity: Mapping, Modeling, & Simulation



Source: Capital IQ, FactSet, PitchBook, and Capstone Research

2019 Buyer Breakdown: Mapping, Modeling, & Simulation



Source: Capital IQ, FactSet, PitchBook, and Capstone Research

FUTURE M&A ACTIVITY

11

RECESSION WILL HIT
M&A, BUT NOT ALL
EQUALLY

M&A activity will undoubtedly be impacted by the shutdown from coronavirus and the slowing economy. Previous cycles have seen a fall in the number of transactions by a third with a larger impact on the value of transactions.

Some segments will be affected more than others, but all sub-sectors will be impacted by:

- ▶ Attention being diverted inward to address immediate operating challenges.
- ▶ Greater caution on the part of capital providers.

Commercial aerospace and the manufacturing supply chain will be hit the hardest and most in need of financing solutions. Companies will be looking to raise capital and negotiate with capital providers who have dusted off their recession playbook. There will also be divestitures to raise cash and survival acquisitions.

Other segments will be less affected:

- ▶ **Defense** will provide some insulation as a steady DOD budget has been requested.
- ▶ **Government IT** shows resiliency and underscores the importance of strategic buyers and coveted targets.
- ▶ **Cybersecurity** continues growing at pace and attackers are unhindered by lockdown requirements.
- ▶ **Simulation & Training** has some wins and losses in the current environment, but is underpinned by compelling economic advantages and capabilities.

M&A activity will undoubtedly be impacted by the shutdown and slowing economy. Commercial aerospace and the manufacturing supply chain will be hardest hit and most in need of financing solutions, while Defense and Government IT will likely provide some insulation

OUR SERVICES INCLUDE ADVISING ON:

Mergers & Acquisitions
Divestitures & Sale of Businesses
Raising Debt & Equity Capital
Refinancing and Restructuring

To learn more about Capstone Headwaters Aerospace, Defense, Government & Security (ADG&S) Practice or to discuss the content of this report please do not hesitate to contact us.

10 RECENT TRANSACTIONS

AEROSPACE & DEFENSE COMPONENT MANUFACTURING

Date	Target	Description	Acquirer [Ultimate Parent]
01/03/19	Swiss-Tech, LLC.	Manufactures precision machined components for aerospace and industrial	BERKS Group [News-Press & Gazette]
01/10/19	Momeni Engineering, LLC	Manufactures precision OEM parts for aerospace	Essex Industries
01/22/19	LEKTRO, Inc.	Manufactures aircraft tugs	John Bean Technologies
01/22/19	Garsite/Progress LLC	Manufactures aircraft refueling products and hydrant dispensers	AFI Partners
01/24/19	Metallics Machining of Triumph	Aerospace components manufacturing	TECT Aerospace [UCA Holdings]
01/24/19	Global 7500	Wing manufacturing unit	Learjet [Bombardier]
01/28/19	Radius Aerospace, Inc.	Manufactures sheet metal components for fixed wing and rotorcraft platforms	Arlington Capital
02/04/19	AvAir, Inc.	Distributes aircraft parts and components	Corrum Capital Management
02/06/19	Stanley Engineering Co	Manufactures components and sub-assemblies for aerospace, defense	Domaille [Onward/Thompson Street]
02/27/19	SMR Technologies, Inc.	Manufactures components for niche aerospace, military, and industrial	Loar Group [Abrams Capital]
02/28/19	Florida Turbine Technologies	Develops turbomachinery systems for aerospace and power in defense, civilian	Kratos Defense & Security
02/28/19	Decavo LLC	Manufactures composite parts, assemblies and UAV airframes for defense, civilian	Flight Support Group [HEICO]
03/04/19	Onboard Systems	Manufactures helicopter cargo hook equipment	Liberty Hall Capital Partners
04/01/19	Baker Industries, Inc.	Manufactures custom tools and parts for aerospace, automotive	Lincoln Electric
04/11/19	LifePort, Inc.	Manufactures interior solutions for fixed and rotary-wing aircrafts	Balmoral Funds
04/24/19	Precision Aerospace LLC	Manufactures machined sheet metal fabrications of engines for aerospace	Curran Cos. [Willcrest Partners]
04/24/19	Gowanda REM-tronics, Inc.	Contract manufacturer for aerospace, military, and industrial	Gowanda Components [Addison]
04/26/19	Paradigm CNC	Manufactures machine equipment for aerospace, defense	Primus Metals
05/02/19	Tex Tech Coatings LLC	Supplies coated and laminated products for aerospace, defense, and industrial	Tex Tech Industries [Arlington]
05/07/19	Zircon Precision Products, LLC	Manufactures metal machined parts for commercial and military aircrafts	CLM Equity Partners
05/29/19	Assets of LAI International	Aircraft engine component production facilities	Whitcraft LLC [Greenbriar Equity]
06/04/19	Pacific Cast Technologies, Inc.	Produces titanium investment castings used by aerospace, defense	Warburg/Bratenahl/American Capital
06/10/19	EDAC Tech (nka:Hanwha Aero)	Manufactures tooling, fixtures, molds, jet engine components, and machine spindles	Hanwha Aerospace Co.
06/10/19	Alta Precision Inc	Manufactures landing gear and gearboxes/engine components for aerospace	Héroux-Devtek
06/10/19	Hydra-Electric Company	Manufactures pressure, temperature, and altitude sensing switches for aerospace	Loar Group [Abrams Capital]
06/11/19	EnergyOr Technologies Inc.	Develops aerospace products	Plug Power Inc.
06/13/19	Quest Aircraft Company, LLC	Manufactures aircraft for charter operators, corporate operators, and other operators	Compagnie Daher SA
06/14/19	Encore Aerospace LLC	Manufactures interior products for commercial aircraft	The Boeing Company
06/17/19	AIM Aerospace, Inc.	Manufactures composite ducting, sub structural, and interiors parts for airlines	Sekisui Chemical Co.
06/25/19	Green Island Operations	Welded parts manufacturing	Ross Precision Manufacturing
06/25/19	Acra Aerospace, LLC	Manufactures machine components and sub-assemblies for aerospace	NOVARIA Holdings [Rosewood]
06/27/19	Lanic Engineering/Gardena	Manufactures aircraft components and assemblies	Spectra Aerospace
07/03/19	Spinel Technologies, LLC	Manufactures armor materials	Advanced Materials Defense Tech.
07/08/19	Matrix Composites Inc.	Fabricated structures with polymeric composites for aviation, military, and space	ITT Inc.
07/08/19	Falmat, Inc.	Manufactures custom cables and wires for defense, aerospace, industrial, and marine	Winchester Interconnect [Aptiv]
07/08/19	Valence Surface Technologies	Independent metal finishing company serving aviation, defense, and space	ATL/British Columbia Investment
07/10/19	TAVCO, Inc.	Manufactures pneumatic controls for aerospace, defense	Kellstrom Defense [Dublin Clark]
07/31/19	Renchel Tool Inc.	Supplies machine components to aircraft parts manufacturers	Carolina Precision [Linx Partners]
08/01/19	Precise Metal Products Co.	Provides precision sheet metal welding and aluminum dip brazing for aerospace	Staple Street/Thompson Capital
09/04/19	Pacific Design Technologies, Inc.	Manufactures liquid cooling systems and components for aerospace, defense	AMETEK
09/09/19	McNally Industries, LLC	Offers helicopter tooling and ordnance-related products for combat vehicles	SIG Holding LLC
09/26/19	Nuclear Systems of Rolls-Royce	Aero engines manufacturing and after sales services business	Westinghouse [Baupost/Brookfield]
10/09/19	Nobles Worldwide, Inc	Manufactures flexible ammunition chutes	Ducommun LaBarge Technologies
10/14/19	Machining Operations of Lapeer	Comprises aerospace and defense machinery	Loc Performance Products
10/21/19	Lines of Aero Design Ltd	Comprises aircraft models manufacturing services	Dart Aerospace [Greenbriar Equity]
11/06/19	OEM Division of B&E	Manufacturer of engine components	Cadence Aerospace [Arlington/Alpinvest]
11/12/19	Numet Machining Techniques	Manufactures jet turbine engine components	Bromford [Liberty Hall/Stellus]
11/13/19	Textars, LLC	Manufactures aircraft composites	PPG Industries
11/20/19	CirComp GmbH	Manufactures customized engineered composite components for aerospace, marine	Albany International Corp.
11/21/19	Chemring Ordnance, Inc.	Manufactures ordnance, pyrotechnic, and other munition components for military	Nammo AS [Patria Oyj]
11/22/19	Aero Pacific/2nd Source	Manufactures aero-structures and aircraft assemblies	ARCH Global Precision [Jordan Company]
11/22/19	Airborne Technologies, Inc.	Manufactures precision aerospace structural components military, general aviation	Kellstrom Defense [Dublin Clark]
11/25/19	Novaria Holdings, LLC	Manufactures precision components and structural fasteners for aerospace, defense	KKR & Co. Inc.
12/10/19	Whitmor Plastic Wire & Cable	Manufactures wires, cables, and tubings for military, aerospace	BJG Electronics [Rockwood]
12/16/19	Quell Corporation, Inc.	Manufactures electromagnetic/RF interference for aerospace, defense	Electronic Technologies Group [HEICO]
12/16/19	Fastener Technology	Manufactures high-strength aerospace and captive fastening products	Shimtech Industries [Auctus Industries]
12/16/19	Evolution Aero and Condor	Manufacture parts and assemblies for aerospace and power generation	Whitcraft [Greenbriar Equity]
12/23/19	Bob Fields Aerocessories, Inc.	Manufactures inflatable door seals for aviation	TALCO Aviation
12/31/19	Assets of Aero-Bond	Manufacturers composite structures and assemblies for aerospace, defense	WHI Global [Rift Valley Equity]

SUPPORT SERVICES & MRO

Date	Target	Description	Acquirer [Ultimate Parent]
11/06/18*	Supplier Management Solutions	Provides supplier management services to aerospace, commercial, and defense	TRIGO, S.A. [Ardian/IDInvest]
12/18/18*	StandardAero	Provides maintenance, repair, and overhaul services for airframes/gas turbine engines	The Carlyle Group
12/18/18*	ExpressJet Airlines, Inc.	Operates scheduled flights	ManaAir, LLC [Kair Enterprises]
01/03/19	Readyjet, Inc.	Provides aircraft appearance and leather care services	PrimeFlight Aviation [Carlyle Group]
01/07/19	Williams Aerospace & Manufacturing	Manufactures military aircraft spare parts and ground support equipment	Kellstrom Defense [Dublin Clark]
01/08/19	Talon Test Labs, Inc.	Offers aerospace non-destructive inspection and testing services	Applus Services, S.A.
01/09/19	Paint and Interior of Lotus	Offers paint and interior maintenance services to the aerospace industry	Gama Aviation Plc
01/10/19	1st Choice Aerospace (FL/OH)	Provides component MRO services for new generation and legacy commercial aircraft	VSE Aviation
01/23/19	World Marine, LLC	Engages in repair, overhaul, conversion, and construction of ships, barges	Modern American Recycling Service
02/01/19	Lopresti Speed Merchants, Inc.	Manufactures drag reducing, replacement parts, and lighting equipment for aircrafts	Whelen Engineering Company
02/04/19	FBO assets of World Jet, Inc.	Comprises aircraft parts	Lynx FBO Network [Sterling Group]
02/07/19	Hardy Aviation Insurance, Inc.	Provides aviation insurance brokerage services for aircraft owners	AssuredPartners, Inc.
02/22/19	Phoenix International Ventures, Inc.	Upgrades and remanufactures electrical, hydraulic, and mechanical support equipment	Neon Bloom, Inc.
02/25/19	USATS, Inc.	Provides helicopter flight training services	International Defense & Aerospace
03/01/19	Kforce Government Holdings, Inc.	Provides staffing solutions	ManTech International Corp.
03/01/19	Business of Leading Edge Services	Comprises an aircraft cleaning and service unit	Sharp Details, Inc. [Carlyle Group]
03/04/19	Aerospace Ops of Jardine	Comprises aerospace retail and wholesale insurance broking business	Arthur J. Gallagher & Co.
03/06/19	Triumph - NAAS Division	Provides aircraft repair services worldwide	STS Aviation Group, Inc.
03/07/19	Dart Holding Company Ltd.	Helicopter leasing, sales, maintenance and overhaul, and spare parts	First Aviation Services [Greenbriar Equity]
03/19/19	Contractor-Operated Business of AAR	Aviation related contractor-operated business	Undisclosed
03/29/19	Structural Integrity Engineering, Inc.	Specializes in aircraft certification, structural design, structural analysis, and testing	Aernnova [TowerBrook/Fisher Lynch]
04/03/19	Power Hawk Technologies, Inc.	Manufactures tools and related equipment for military, governmental	Snap-on Incorporated
04/05/19	QRP Gloves, Inc.	Manufactures gloves and fingercoats that are used in aerospace, biotechnology	Protective Industrial Products [Audax]
04/09/19	North State Aviation Holdings, LLC	Operates as an aircraft repair station	MRO Holdings, Inc.
04/10/19	Prikos & Becker, LLC	Manufactures parts and sub-assemblies for the aerospace industry	Consolidated Aerospace Manufacturing
05/01/19	Alpine Air Express Inc.	Engages in the air cargo business	AE Industrial Partners
05/13/19	WestJet Airlines Ltd. (TSX:WJA)	Provides scheduled airline services and travel packages	Onex Corporation
05/14/19	Private Jet Mgmt Biz of Elliott	Provides private jet management services	Jet Linx Aviation
05/14/19	DIMO Corp.	Distributes critical parts and higher-level assemblies for air, land, and naval forces	Acorn Growth Companies
05/23/19	Tekalia Aeronautik (2010) Inc.	Offers surface treatment services to the aerospace sector	Héroux-Devtek Inc.
06/03/19	Travel Management Company, LTD.	Provides light aircraft charter services	Wheels Up Partners [Delta Airlines]
06/20/19	Majestic Terminal Services Inc.	Operates air cargo and ground handling company	PrimeFlight Aviation [Carlyle Group]
06/20/19	Dakota Moon Enterprises LLC	Provides supply chain management solutions to the aerospace industry	QuEST [Advent/Bain/GIC]
06/25/19	Canadair Regional of Bombardier	Maintenance, refurbishment, and sales operations of Canadair Regional Jet series	Mitsubishi Heavy Industries
06/25/19	Qwest Air Parts, Inc.	Manufactures commercial aviation parts	AerSale Inc. [Leonard Green Partners]
06/29/19	SAFE Aviation Solutions	Testing, repair, overhaul, and modification of fuel systems, hydraulics, and accessories	StandardAero [Carlyle Group]
07/10/19	Bushwacker, Backpack, and Supply	Manufactures personal protection spray and accessories for law enforcement/military	Tender Corporation
07/15/19	Aviation Blade Services, Inc.	Provides helicopter rotor blade repair, overhaul, and modification services	First Aviation Services Inc.
07/15/19	QC Laboratories, Inc.	Provides non-destructive testing and consultancy services	Sintavia, LLC [Neff Capital]
07/18/19	Columbia Helicopters, LLC	Designs and operates commercial heavy-lift helicopters	AE Industrial Partners
07/25/19	MHI Holdings, LLC	Provides marine repair and conversion services	Vigor Industrial LLC [Carlyle and Stellex]
07/26/19	Sea Coast Fire, Inc.	Offers installation/maintenance of fire equipment to government, military, industrial	Pye-Barker Fire & Safety [Leonard Green]
07/29/19	Exotic Metals Forming Company LLC	Manufactures and provides aftermarket support services for aerospace	Parker-Hannifin Corporation
07/30/19	Ontic Engineering and Manufacturing	Manufactures OEM-pedigree parts and accessories for legacy aerospace platforms	CVC Capital Partners Limited
07/31/19	Tecmotiv (USA), Inc.	Supplies components and offers MRO and upgrade military vehicle platforms	Admiral Capital/RedNest
08/06/19	Modesto Jet Center	Provides air charter, aircraft management, maintenance, and aviation services	Matt Bosco
08/09/19	Wesco Aircraft (NYSE:WAIR)	Distributes aerospace products and supply chain management services to aerospace	Pattonair [Platinum Equity Partners]
08/19/19	Time Saver Aviation L.L.C.	Offers commercial aerial charter and aircraft maintenance services	MAG Aerospace [New Mountain Capital]
09/04/19	Engineering Solutions and Products	Provides logistics and project management solutions to DOD	Sev1Tech, Inc.
09/05/19	Momentum Services Corporation	Provides repair and service for commercial and military aviation crystal displays	Precision Aviation [GenNx360]
09/09/19	Aviation Capital Group LLC	Owns, manages, and leases commercial jet aircraft	TC Skyward [Tokyo Century]
09/16/19	Inventory Locator Service, LLC	Provides information on parts to subscribers in aviation, marine, and defense	CAMP Systems [Hearst]
09/24/19	ARGUS International, Inc.	Provides market research and consulting services to the aviation industry	SGS SA
09/30/19	Thrush Aircraft	Comprises the assumption and assignment of executory contracts	HHM Aviation Financing LLC
10/01/19	GardaWorld	Provider of security services	BC Partners
10/01/19	Protective Eyewear of Revision Military	Comprises protective equipment for military use	Asgard Partners/Merit Capital
10/02/19	Travelliance, Inc.	Provides crew and workforce accommodations and transportation management	FleetCor Technologies
10/10/19	Nashville Assembly Ops of Triumph	Comprises assembling aerostructures operations	TECT Aerospace [UCA Holdings]
10/14/19	Beechjet Business of GlobalParts	Comprises Beechjet 400 rotatable parts program	C & L Aviation Group
10/15/19	Andpak Inc.	Operates as contract packager of chemicals for aerospace	ADDEV [Tikehau/Bpifrance & Garibaldi]
10/28/19	Muskoka Aircraft Center Hangar	Comprises aircraft maintenance and repair services	SkyService [InstarAGF]
10/31/19	Short Brothers plc	Comprises aircraft maintenance, repair, and overhaul business	Spirit AeroSystems
11/01/19	Pacific Architects and Engineers Inc.	Provides integrated services to support missions worldwide	Gores Holdings
11/06/19	Aircastle Limited (NYSE:AYR)	Leases, finances, sells, and manages commercial flight equipment to airlines	Marubeni Corporation
11/12/19	Aerospace Welding, Inc.	Provides spot, seam, stud, and flash welding services for aerospace, defense	Williams Aerospace [Dublin Clark]
11/13/19	Damping Technologies, Inc.	Provides vibration and noise control applications primarily to aerospace, defense	Graham Partners
11/14/19	Surface Preparation Technologies, Inc.	Provides surface preparation services to government agencies	Dominus Capital, L.P.
11/24/19	Pantheon Chemical, Inc.	Produces non-toxic surface pretreatment for aircraft repainting program	SocoKote LLC
12/09/19	AerSale Inc.	Supplies aftermarket aircraft, engines, components, and OEM materials	Monocle Acquisition Corp.
12/12/19	Delta Private Jets, Inc.	Provides on-demand private and business jet travel services	Wheels up [Delta]
12/13/19	Canada Jetlines Ltd. (TSXV:JET)	Operates as an ultra-low cost carrier scheduled airline service company	Global Crossing Airlines Group
12/27/19	APPEARANCE GROUP, Inc.	Offers aircraft services and cabinetry repair services	PrimeFlight Aviation Services [Carlyle]
12/31/19	GE Supply Logistics, LLC	Supply chain management solutions and inventory logistics to aerospace	Luther King Capital Management
12/31/19	Carver Aero, Inc.	Offers fixed-base operator (FBO) services in Iowa	CL Enterprises LLC

*Announced in 2018 but closed in 2019

AEROSPACE & DEFENSE ELECTRONICS

Date	Target	Description	Acquirer [Ultimate Parent]
10/10/18*	Esterline Technologies	Manufactures engineered products for aerospace, defense	TransDigm Group
10/14/18*	L3 Technologies, Inc.	Provides aircraft sustainment, simulation, and detection systems for military	L3Harris Technologies, Inc.
11/30/18*	ARC Technologies LLC	Manufactures microwave absorber materials	Hexcel Corp.
11/30/18*	API Defence USA, Inc.	Provides engineering and manufacturing services to defense, aerospace, and industrial	Kitron ASA
01/08/19	General Microcircuits, Inc.	Electronics manufacturing company	East West Manufacturing
01/22/19	In-Flight Biz of Collins Aero	Provider of in-flight entertainment services	Burrana Inc [JW Hill Capital]
01/28/19	Aeryon Labs Inc.	Manufactures small unmanned aerial systems for military/public safety, commercial	FLIR Systems
01/30/19	Mastodon Design, LLC	Manufactures rugged signals intelligence, electronic warfare, and cyber products	CACI International
02/05/19	SEOPS, LLC	Provides satellite transportation, integration, and deployment solutions	Hypergiant, LLC
02/15/19	N2 Imaging Systems, LLC	Manufactures compact, low power, visible, and infrared imaging systems	Cornerstone Capital Holdings
02/26/19	Circuit Technology, Inc.	Provides contract manufacturing services for PCBs aerospace, defense, and other	VirTex Enterprises [Insight Equity]
03/01/19	Sparton	Provider of manufacturing services for electromechanical devices	Cerberus
03/01/19	Nuvotronics	Developer of custom integrated circuits for aerospace/defense, communications	Cubic
03/01/19	Hernetics Solution Group	Manufacturer of specialized hermetic packaging enclosures	Windjammer
03/06/19	ForeFlight LLC	Provides digital flight planning and navigation software	The Boeing Company
03/26/19	Syston Donner Inertial, Inc.	Manufactures micro-electro-mechanical systems inertial sensors	Resilience Capital Partners
04/04/19	Automated Business Power, Inc.	Manufactures communication and power systems for the defense industry	Cache Creek/Medallion/Rockmont
04/05/19	Night Vision business of Harris	Provides night vision technology for the U.S. and allied military and security forces	Elbit Systems of America, LLC
04/05/19	Chemring Military Products, Inc.	Supplies ammunition and weapons systems for the U.S. and allied armed forces	Global Ordnance LLC
04/22/19	The KeyW Holding Corporation	Provides national security solutions	Jacobs Engineering Group
04/29/19	LORD Corporation	Manufactures adhesives, coatings, and motion management devices	Parker-Hannifin Corp.
05/01/19	Redstone Aerospace Corp.	Manufactures cryogenic systems and high precision pointing subsystems	II-VI Incorporated
05/06/19	Intermolecular, Inc.	Develops advanced materials for aerospace, industrial	MERCK Kommanditgesellschaft
05/09/19	API Technologies Corp.	Manufactures systems for RF microwave, millimeter wave for defense, and commercial	AEA Investors LP
06/09/19	Raytheon Company (NYSE:RTN)	Develops integrated products and solutions for the defense and other government	United Technologies Corp.
06/10/19	Syston Donner Inertial, Inc.	Manufactures micro-electro-mechanical systems inertial sensors and systems	EMCORE Corp.
06/11/19	Pulse Aerospace, Inc.	Manufactures unmanned helicopters and associated systems	AeroVironment, Inc
07/17/19	HighCom Armor	Manufactures body armor and personal protective equipment	XTEK Limited
07/24/19	TruTrak Flight Systems, Inc	Manufactures digital and standard autopilots for experimental and light sport aircraft	Honeywell International Inc.
07/30/19	American Panel Corporation	Manufactures display products for military vehicles and commercial aircraft	Mercury Systems, Inc.
07/30/19	Servatron, Inc.	Provides custom and contract manufacturing services	Volex plc
08/05/19	General Dynamics SATCOM Tech	Manufactures satellite and wireless communications for government, military	CPI International [Odyssey]
08/07/19	Esterline Interface Technologies	Manufactures touch, sensing, and control human interface systems for OEM	KPS Capital Partners
08/07/19	Ballistic Protection Business of 3M	Manufactures ballistic helmets, body and flat armor	Avon Rubber
08/22/19	Brandywine Communications Inc.	Manufactures GPS time and frequency products for military	Cache Creek/Rockmont
09/03/19	Micralyne, Inc.	Manufactures micro-fabricated and MEMS	Teledyne Technologies Inc.
09/03/19	Strata-G Solutions, Inc.	Manufactures rotary and fixed wing aircraft response systems	The Aleut Corporation
09/03/19	Triman Industries Inc.	Distributes fasteners and electronic components for military, commercial	AE Industrial Partners
09/09/19	Novawurks, Inc.	Develops modular satellites and spacecraft that host payloads	Saturn Satellite Networks
09/09/19	Heads Up Technologies, Inc.	Manufactures cockpit, cabin, and aviation electrical systems for aircraft manufacturers	JLL Partners
09/10/19	TTT-Cubed, Inc.	Manufactures cutting edge RF sources, detectors, and controllers	dB Control Corp. [HEICO]
09/10/19	Space Electronics LLC	Manufactures aerospace high-precision mass properties measurement instruments	L Squared Capital Partners
09/17/19	Duke Robotics, Inc.	Manufactures robotic weaponry system	UAS Drone Corp.
09/23/19	Arotech (NasdaqGM:ARTX)	Provides defense and security products worldwide	Greenbriar Equity Group
09/23/19	Certain Assets of Avianis System	Provides flight management system for private aircraft owners, operators	Wheels Up Partners [Delta Airlines]
10/01/19	Co-Operative Industries Defense	Manufactures electronic components, specializing in wire or cable harness assemblies	kSARIA Corp. [Behrman Capital]
10/02/19	Manufacturing Techniques, Inc.	Manufactures integrated, portable, and fixed sensor systems for government	QinetiQ Group
10/02/19	Certain Assets of Aria Insight	Engaged in development of unmanned aerial vehicles used in reconnaissance	FLIR Systems
10/02/19	Simplex Manufacturing Company	Manufactures aerial application systems and mission equipment	Dart Aerospace [Greenbriar Equity]
10/07/19	Substantially All Assets of Surefly	Unmanned aerial vehicle manufacturing business	Moog Inc.
10/16/19	Radixx International, Inc.	Develops custom tailored airline reservation, distribution, and merchandizing systems	Sabre Corporation
10/21/19	OpenEye Inc.	Manufacturing of digital video recorders and surveillance equipment for aerospace	Alarm.com Holdings
10/25/19	Helios Wire Corporation	Develops satellites that offers integrated satellite-enabled monitoring	EchoStar Global
10/28/19	American Microwave Corporation	Manufactures microwave control components and subsystems to defense, commercial	Ironwave Tech [Ironwood Capital]
11/11/19	Certain Assets of EWI Systems	Electrical wiring interconnection System (EWIS)	Latécoère S.A.
11/13/19	MICT, Inc. (NasdaqCM:MICT)	Manufactures rugged mobile computing devices	Global Fintech Holdings
11/18/19	Adcotron EMS Inc.	Provides electronics contract manufacturing services to defense, homeland security	East West Manufacturing
11/19/19	Business of Excelitas Tech	Power supply business	TT Electronics
11/26/19	901 D LLC	Solutions for the protection of COTS electronics equipment from harsh environments	Curtiss-Wright Corp.
12/02/19	Torotel, Inc. (OTCPK:TTLO)	Manufactures precision magnetic components	Standex International Corp.
12/04/19	Drone Aviation Holding Corp.	Develops lighter-than-air aerostats, tethered drones, and land-based intelligence	Drone Aviation Holding Corp.
12/04/19	Antenna Development Corporation	Manufactures radio frequency antenna	Blue Canyon Technologies
12/12/19	MTM Robotics LLC	Manufactures portable tools and provides software systems for aerospace	Airbus Americas, Inc.
12/16/19	Precision Technology, Inc.	Manufactures electronic products to aerospace, military	VirTex Enterprises [Insight Equity]
12/17/19	AMTAC, Inc.	Manufactures suppressors	AEGIX Global
12/17/19	Assets of PAE ISR LLC	Provides intelligence, surveillance, and reconnaissance solutions	American Aerospace Technologies

*Announced in 2018 but closed in 2019

DEFENSE IT & TECHNOLOGY

Date	Target	Description	Acquirer [Ultimate Parent]
9/10/18*	Engility Holdings, Inc.	Provides a range of technical services to the U.S. DOD and other government entities	Science Applications International
01/02/19	Bradford Space Inc.	Operates as an asteroid mining and space technology company	Bradford Engineering [Moog]
01/03/19	Accelerated Development and Support	Supports gov't and prime system integrators with science and technology	ADS Federal
01/07/19	OGSystems, LLC	Provides geospatial and security solutions for the DOD and intelligence community	Parsons Corporation
01/09/19	CyberSpace Operations Consulting	Provides technical solutions and operational consulting to government	Advanced Core Concepts
01/11/19	Global Elite Group INC	Provides security, aviation, and business services	Securitas Transport Aviation Services
01/18/19	Fulcrum IT Services, LLC	Provides IT and cybersecurity services and solutions	Huntington Ingalls Industries
01/22/19	National Technologies Associates	Specializes in program management and engineering for military aviation	VT Group, Inc. [The Jordan Group]
01/28/19	DHA Group Inc.	Provides information technology and management and consulting to federal gov't	ECS Federal [ASGN Inc.]
01/29/19	GECO Inc.	Manufactures hardware and software solutions of avionics	Mercury Systems, Inc.
01/29/19	Vitech Corporation	Develops systems engineering and architecting software solutions for military	Zuken Inc.
02/01/19	MicroPact Inc.	Provides case management and software solutions to government, commercial	Tyler Technologies, Inc.
02/05/19	The Tauri Group LLC	Provides homeland security, technology, aerospace, and gov't contracting services	Logistics Management Institute
02/25/19	Thermopylae Sciences and Tech	Develops software used in geospatial applications for government and defense	Hexagon AB
02/25/19	Bear Cloud Software LLC	Develops software solutions governments	Host Compliance [Granicus/Vista/K1]
03/18/19	Tactical Communications Group	Provides tactical data link software solutions for the military community	Curtiss-Wright Corp.
03/18/19	Schafer Intermediate Holdings	Provides scientific and technical advisory services for national security	Gryphon Tech [AE Industrial Partners]
03/18/19	NexDefense, Inc.	Develops cyber security software for automation and control systems	Dragos, Inc.
03/22/19	Alytica LLC	Operates as an aerospace and defense consulting company	CieloGov, LLC [Cielo Global Holdings]
04/03/19	Global Tech Inc.	Management consulting company for the federal government	Tetra Tech, Inc.
04/10/19	Northwood Global Solutions, LLC	Provides cloud migration cybersecurity to intelligence communities	EverWatch Corp. [Enlightment Capital]
04/22/19	Trowbridge & Trowbridge, LLC	Provides cloud, cyber, and IT modernization solutions to defense, intelligence	Enlightenment Capital
04/26/19	Imex Systems Inc. (TSXV:IMEX)	Provides technology and solutions for e-government	NxGen Communications Corp.
05/03/19	Point 2 Point Global Security, Inc.	Provides security services to government organizations	Allied Universal [Warburg Pincus]
05/16/19	Metova Federal Services	Provides IT products and services	By Light Prof. [Sagewind/PennantPark]
05/22/19	Tellus Safety Solutions, LLC	Develops software connecting police, fire, medical, and government agencies	CentralSquare Tech [Bain/Vista]
05/23/19	Naval Systems Business of Alion	Comprises naval systems business unit operations	Serco Inc.
06/03/19	GANTECH Inc.	Operates as a systems integrator to government agencies	Gcom Software LLC
06/05/19	Endgame, Inc.	Provides security intelligence and analytics solutions for federal customers	Elastic N.V.
06/13/19	IP of i3 Electronics, Inc.	Printed circuit board (PCB) capabilities and IP portfolio for aerospace, defense	TTM Technologies, Inc.
06/17/19	Solers, Inc.	Provides IT solutions for federal and commercial sectors	Peraton Corporation
06/26/19	Integrated Federal Solutions, Inc.	Offers professional support and management consulting services	Creek Indian Enterprises
07/02/19	PGFM Solutions, LLC	Manufactures cybersecurity, risk assessment, and machinery control systems	Gryphon Tech [AE Industrial Partners]
07/10/19	Siege Technologies, LLC	Provides defensive cyber security solutions for private and government sectors	Braes Capital LLC
07/22/19	Veracity Forecasting and Analysis	Provides decision support services in the government and defense sector	Systems Planning and Analysis [CM]
07/24/19	Altamira Technologies Corp.	Provides defense engineering and analytic services for intelligence and defense	ClearSky/McNally/Nio Advisors
08/01/19	Knight Point Systems, LLC	Provides IT services and solutions to federal and commercial clients	Perspecta Inc.
08/01/19	NC4, Inc.	Provides safety and security solutions for government sectors	Everbridge, Inc.
08/01/19	Data Works Inc.	Offers custom software development services for big data analysis	E3 Federal Solutions [Sentinel]
08/13/19	Maverick Cyber-Defense, LLC	Provides cyber security, IT, and threat prevention services	Converged Security Solutions
08/22/19	Carbon Black, Inc.	Provides security solutions	Vmware [Dell]
09/04/19	CollabNet, Inc.	Provides enterprise software solutions and consulting and training services	TPG Capital, L.P.
09/05/19	ViewPoint Government Solutions, Inc.	Develops ViewPoint Cloud, a multi-tenant SaaS software	OpenGov, Inc.
09/06/19	Computer Word Processing Systems	Provides managed IT and IT support services to government sectors	Red River Computer Co.
09/10/19	Global Management Systems, Inc.	Offers networking and communications infrastructure services	Dinocrates Group LLC
09/12/19	Universal Technology Corporation	Provides engineering and technical support and solutions to defense, civilian gov't	Advanced Core Concepts, LLC
09/25/19	Vanguard Systems, Inc.	Provides enterprise document management systems	MHC Software, Inc. [Strattam Capital]
09/29/19	The Mentor Group, Inc.	Operates a job search portal that connects veterans with employers	Metisentry LLC [Pantek Inc.]
09/30/19	Corvus Consulting, LLC	Offers defense-related consulting and advisory services	BioNovelus Inc
10/01/19	DELTA Resources, Inc.	Provides technical expertise to federal and government partners	VT Group, Inc. [The Jordan Group]
10/08/19	DroneDefender Tech of Battelle	Provides counter-sUAS technology consultancy, threat detection, and mitigation	Dedrone Defense, Inc.
10/17/19	Baum, Romstedt Technology	Provides professional services to federal government agencies	Whitney, Bradley and Brown, Inc. [H.I.G.]
10/30/19	DLT Solutions, Inc.	Provides IT solutions to federal, state, and local governments	Tech Data Corporation
10/30/19	Next Century Corporation	Provides system concept development, prototyping, and software engineering	CACI International Inc
10/31/19	Grammatech, Inc.	Develops software-development tools for companies and government agencies	Capital SW/Crescendo/5 Points
10/31/19	The Perduco Group Inc.	Provides data analytics, data architecting, and model-based simulation to defense	LinQuest [CoVant/Madison Dearborn]
11/08/19	ScholarVets LLC	Operates application scholarVets app for veterans	Metisentry LLC [Pantek Inc.]
11/21/19	Technical Surveillance Sciences, Inc.	Provides surveillance training requirements of governmental and military organizations	Cross Timbers Consulting Group
12/10/19	Intelishift Technologies Government	Comprises infrastructures assets	Data Canopy Colocation
12/13/19	Assets of Vector Launch	Comprises software designed satellites	Lockheed Martin Corporation
12/17/19	Dynetics, Inc.	Provides engineering, scientific, and IT solutions	Leidos Holdings, Inc.

*Announced in 2018 but closed in 2019

FIRM TRACK RECORD



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 Competence in Composites has been acquired by 	 has obtained a \$145 million revolving credit facility and a \$44 million term loan facility	Aeronautics has acquired 	 has been acquired by
 11 Acct. Security. UltraPrivacy has been acquired by 	 has been acquired by 	 COMFORT. PRIVACY. INTELLIGIBILITY. has been acquired by 	 has been acquired by
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To learn more about Capstone Headwaters Aerospace, Defense, Government & Security (ADG&S) Practice or to discuss the content of this report please do not hesitate to get in touch with a member of our team. Our services include advising on:

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- Raising Debt & Equity Capital
- Divestitures & Sale of Businesses
- Refinancing and Restructuring

2020

INVESTMENT BANKING FIRM
OF THE YEAR



2020

MIDDLE MARKET
INVESTMENT BANK
OF THE YEAR



2019

US MIDDLE MARKET
INVESTMENT BANK
OF THE YEAR



2019

INVESTMENT BANKING FIRM
OF THE YEAR



2019

INVESTMENT BANKING FIRM
OF THE YEAR



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