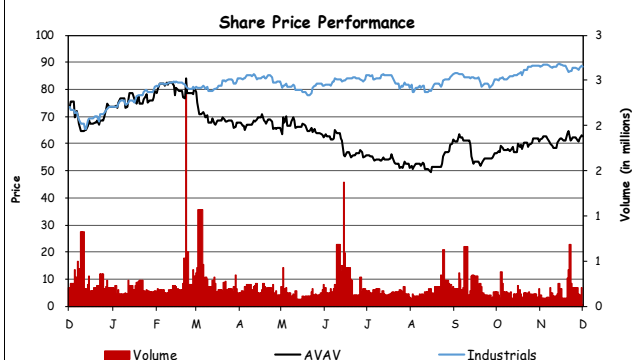


AeroVironment, Inc.	Symbol: AVAV
Analyst	Phillip Harabarovici
Buy below	\$61.39
Sell above	\$82.27
Probability of Price Increase	59%
Last Price	\$62.79
Intrinsic Value	\$68.56
Target Dividends	\$0.00
Target Price	\$73.67



Description
 AeroVironment, Inc. designs, develops, produces, supports, and operates a portfolio of products and services for government agencies and businesses.

Sector Industrials
Industry Aerospace and Defense
Last Guidance December 11, 2018
Next earnings date March 3, 2020

People
 Nawabi, Wahid, CEO, President & Director
 Karklin, Kenneth, Senior Vice President of Operations
 Brown, Melissa, VP, General Counsel & Corporate Secretary
 Covington, Teresa, Consultant
 Flittie, Kirk, Consultant
 Shackley, Brian, Interim Chief Financial Officer & Chief Account

Top Competitors

--	FLIR Systems, Inc.
Mercury Systems, Inc.	--
Kratos Defense & Security Solutions, Inc.	Astronics Corporation
Cubic Corporation	--
AAR Corp.	--

Market Statistics

Market Capitalization (mil)	\$1,495.26
Last Price per share	\$62.79
52 week high	\$95.38
52-week low	\$48.61
Volatility	40.97%
Daily volume (mil)	0.02
Short interest	9.82%
Days to cover short interest	11.95
Beta	0.72

Financials

Profitability	AVAV (LTM)	AVAV Historical	Peers' Median (LTM)
Return on Capital	8.6%	4.32%	6.75%
Adjusted EBITDA Margin	20.7%	6.40%	7.19%
Return on Equity	7.2%	2.8%	7.1%
Adjusted Net margin	20.6%	6.2%	10.7%
Invested Funds	AVAV (LTM)	AVAV Historical	Peers' Median (LTM)
Cash/Capital	41.9%	47.6%	5.5%
NWC/Capital	16.8%	9.3%	18.3%
Operating Assets/Capital	40.1%	45.3%	34.7%
Goodwill/Capital	1.2%	0.0%	37.6%
Capital Structure	AVAV (LTM)	AVAV Historical	Peers' Median (LTM)
Total Debt/(Market Cap.+ Other Claims on Capital)	0.02	0.03	0.19
Minority Interest/(Market Cap.+ Other Claims on Capital)	0.0%	0.0%	0.0%
Preferred Equity/(Market Cap.+ Other Claims on Capital)	0.0%	0.0%	0.0%
CGFS Credit Rating	A		B
Credit Rating Model	bbb to bbb+		bb to bb+
Probability of Default Model	a+ to aa-		bbb-
Likely Current Cost of Debt	3.67%		4.27%
Likely Current Cost of Equity (Cost of Debt + MRP)	9.94%		10.54%
Likely Current WACC	9.90%		9.4%

Investment Thesis

ATTACK DRONES THE MONEY-MAKER

I am initiating coverage of AeroVironment Inc. with a LIMIT BUY at \$61.39 and a \$73.67 price target. AVAV is an American defense contractor headquartered in California, that is primarily involved in unmanned aerial vehicles. I view AeroVironment as a company that is ahead of the curve in terms of aerial defense. With new products recently being innovated and produced for defense contracts the future growth of the company is promising. The increase in contracts provides a value opportunity for a new type of defense.

For the long:

- Successful product launches and contract acquisitions:** The company won various contracts which will put them ahead of the competition. This includes a U.S. Army Future Combat systems contract worth \$55 Million, \$20 Million in international unmanned air craft awards. Most importantly a submission to project Switchblade for Army/Marines unmaned aircraft defense worth up to \$160M which is anticipated in fiscal year fourth quarter (currently in fiscal year second quarter 2020)
- HAPS Connectivity program:** The "high altitude pseudo satellite program" is done in partnership with SoftBank Corp. to develop the next generation of connectivity. This includes 5G Mobile to the supporting of the internet of things (IOT). The total contract value of HAPS project is \$148.9 million. The program is currently in the test/demonstrate phase. The growth is in the potential to manufacture and supply HAWK30 systems to HAPSMobile on an exclusive basis.
- Increasing Backlog Supporting High Visibility:** Due to the increasing amount of backlog and conversion of backlog the company expects to achieve fiscal year 2020 objectives. This would be their third consecutive year of profitable, double - digit topline growth. Increasing visibility, or amount of confidence for predictions for the future, from 55% in 2017 to 85% in 2020.

For the short:

- Losing key contracts:** There is a possibility that development goes awry for the company and they lose expected contracts in the unmanned aircraft defense space. This is mainly for the U.S. defense which uses IDIQ contracts which are multiyear terms and unfunded ceiling amounts that enable but don't commit the U.S. to purchase.
- The overall marketplace may also reject the innovations if not needed in the future:** The business model is depended on the broad acceptance of both commercial and military use. Considering the demand is expected based on estimates this may mean the value isn't created once the future becomes present.
- Increase in complexity may decrease margins:** The expansion of business areas by the company has increased significantly which places strain on SG&A infrastructures.

Key Catalysts for price change

- Multitude of product launches in near future
- Converting increasing backlog from new contracts

Valuation

My \$73.67 price target is derived from Discounted Unlevered Free Cash Flow estimates with a weight of 100%.

Ownership

	Change in Ownership (over the past 6 months)
Shares outstanding (mil)	23.76
Weighted Diluted shares outstanding (mil)	24.07
Options and Warrants (Shares equivalent)	0.23
% shares held by institutions	89%
% shares held by investments Managers	81%
% shares held by hedge funds	2.14%
% shares held by VC/PE firms	0.369%
% shares held by insiders	7.91%
Poison Pill and Type	NONE

Quarterly Earning Surprises (Actual/Median Estimates)

Revenue	Last 5 quarters
10/27/2018	\$291.916 (-1.3%)
1/26/2019	\$301.288 (1.1%)
4/30/2019	\$351.72 (8.8%)
7/27/2019	\$347.644 (2.5%)
10/26/2019	\$333.084 (0.9%)
History:	Last 10 years
Mean Surprise	-1.27%
99th percentile "surprise" range	-19% to 16%
EBITDA	Last 5 quarters
10/27/2018	\$33.928 (20.5%)
1/26/2019	\$39.148 (38.3%)
4/30/2019	\$46.72 (22.9%)
7/27/2019	\$83.896 (76.3%)
10/26/2019	\$41.912 (2.7%)
History:	Last 10 years
Mean Surprise	67.45%
99th percentile "surprise" range	-171% to 306%

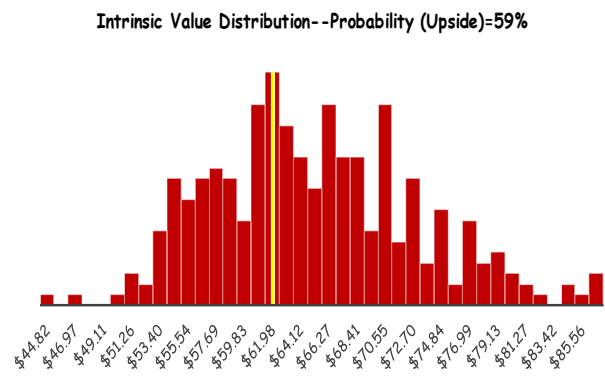
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Cost of Capital Estimates			
	CGFS Credit Rating	Credit Rating Model	Probability of Default ModelModel
Implied Cost of Borrowing (AVAV)	3.4%	4.4%	3.4%
Implied Cost of Borrowing (Peers)	4.8%	5.2%	4.8%
	Base Year	Explicit Period (15 years)	Continuing Period
Cost of New Debt Estimate	3.67%	3.67%	3.67%
Country Risk Premium Estimate	6.27%	6.27%	6.27%
Cost of Equity Estimate	9.94%	9.94%	9.94%
WACC Estimate	9.90%	9.90%	9.90%

Forecast Assumptions						
Fiscal Year	Revenue Growth	EBITDA Margin	CAPEX/Revenue	DPR/CAPEX	Other	
Base Year (Actual)	3.76%	19.7%	2.8%	0.86	SBC/Revenue 2.23%	
year 1	21.00%	16.1%	3.6%	0.90	Constant/same as LTM	
year 2	21.00%	16.5%	3.6%	0.90	Lease term 5	
year 3	9.81%	16.7%	3.5%	0.91	Rent Expense/Revenue 1.58%	
year 4	9.25%	16.4%	3.5%	0.92	Tappers off to historical average	
year 5	8.68%	16.2%	3.4%	0.92	R&D life 10	
year 6	8.12%	15.9%	3.4%	0.93	R&D Expense/Revenue 28.34%	
year 7	7.56%	15.7%	3.4%	0.94	Constant/same as LTM	
year 8	7.00%	15.4%	3.3%	0.94	LIFO Reserve Tappers off to zero	
year 9	6.44%	15.2%	3.3%	0.95	Non-operating pension costs Tappers off to zero	
year 10	5.87%	14.9%	3.2%	0.96	Net financing pensions costs Tappers off to zero	
year 11	5.31%	14.7%	3.2%	0.97	Overfunded pension plans Tappers off to zero	
year 12	4.75%	14.5%	3.2%	0.97	Capitalized interests Constant/same as LTM	
year 13	4.19%	14.2%	3.1%	0.98	Dividends/Revenue 0.25%	
year 14	3.62%	14.0%	3.1%	0.99	Tax Rate 12.32%	
year 15	3.06%	13.5%	3.0%	0.99		
Continuing Period	2.50%	13.5%	3%	1.00		

Simulation Assumptions						
Random Variables	Distribution Assumption	MAX	Likely	MIN	Sensitivity: Price Variance Attribution Analysis	
Deviations in annual Revenue Growth--Expl. Per.	Triangular	1.71%	0%	-2.17%	7.03%	Revenue growth
Deviations in annual Revenue Growth--Cont. Per.	Normal	1.41%	0%	-1.41%	6.02%	EBITDA Margin
Deviations from EBITDA Margin base annual estimates	Triangular	3.02%	0%	-5.15%	61.40%	CAPEX/Rev
Deviations from CAPEX/Revenue base annual estimates	Triangular	0.25%	0%	-0.61%	22.50%	Discount Rate
Deviations from Kd base annual estimates	Triangular	1.50%	0%	-0.81%	0.00%	TEV/Rev
Deviations from CRP base annual estimates	Triangular	1.82%	0%	-1.92%	0.00%	TEV/EBITDA
Deviations from TEV/Revenue base estimate	Triangular	2.67	0%	-1.26	0.00%	P/BV
Deviations from TEV/Revenue base estimate	Triangular	9.71	0%	-4.75	0.00%	P/E
Change in P/BV (TTM)	Triangular	1.25	0%	-0.86	0.00%	Asset Recovery Rate
Change in P/E (FW)	Triangular	19.76	0%	-6.50	0.00%	
Recovery Rate	Triangular	10.00%	0%	-10%	0.00%	

Valuation			
DCF Valuation	Base	Explicit Period (Average)	Continuing Period
Revenues	\$333.43	\$752.99	\$1,122.85
EBITDA Margin	21%	15%	13%
UFCF	\$28.15	\$63.82	\$290.08
WACC	9.90%	9.90%	9.90%
ROIC	8.61%	9.42%	9.90%
Relative Valuation			
	Median Justified Multiple	Basis	Implied Equity Value
EV/Rev (FW)	2.1x	\$415.70	\$1,120.89
EV/EBITDA (FW)	14.7x	\$67.19	\$1,240.72
P/BV (TTM)	2.6x	\$1,211.50	\$3,103.23
P/E (FW)	23.4x	\$81.27	\$1,902.95



Asset Based Valuation			
Recovery Rate	60%		
Capital	\$1,880.19		
Intangibles	\$24.03		
Claims	\$29.79		
Implied Equity Value	\$1,083.91		

Valuation Summary	Intrinsic Value	Target Price	Model Weight
DCF Valuation	\$ 69.90	\$ 75.01	100%
EV/Rev (FW)	\$ 46.12	\$ 50.69	0%
EV/EBITDA (FW)	\$ 51.05	\$ 56.11	0%
P/BV (TTM)	\$ 127.69	\$ 140.33	0%
P/E (FW)	\$ 78.30	\$ 86.05	0%
Asset Based Valuation	\$ 44.60	\$ 49.01	0%
Price per Share	\$ 69.90	\$ 75.01	100%