

## Apple, Inc. (AAPL)

Overweight

Car Would Yield Small Initial Revenue, But Big Enough To Move Needle Long Term

### CONCLUSION

We believe the reality of an Apple car is increasing given yesterday's WSJ article suggesting a 2019 "ship date." While sales are likely to begin later than 2019, we believe investors are starting to try to factor the Apple car into the model. To put the car in perspective, every 40,000 units at a \$75K ASP would add 1% to 2021 revenue. By comparison, Tesla produced 35,000 cars in 2014. Some investors are trying to determine the best case long-term case for the car. While we note the inherent difficulty in making long-term predictions and don't necessarily believe this will happen, to put the larger opportunity in perspective, if Apple were to recreate the success of BMW in 20 years (1.8 million cars in 2014), it could yield \$135B in revenue. We continue to view the car as positive to AAPL's multiple and maintain our OW rating and \$172 target.

- When Customers Could Actually Buy An Apple Car.** According to the WSJ article, Apple has a target "ship date" of 2019, although the article notes that could be the target date to finalize core features, not necessarily launch. The WSJ noted that ship date could mean the date where Apple engineers sign off on the product's core features. If the company does go through with the car, which appears increasingly likely, we believe that based on that target ship date detail, it may be closer to 2021-22 before the company is actually selling cars to consumers.
- Using Tesla As A Guide For Project Titan.** We believe that given Apple's car will likely be a luxury electric car, Tesla is the best historical comp to put Apple's car in perspective. We believe there are a few important elements of Tesla to consider:
  - Tesla launched its first car in general production, the Tesla Roadster, in 2008.
  - In 2014, Tesla produced ~35k vehicles (Model S) and generated \$3.2B in revenue.
  - Tesla's gross margins were 22% in Q215 vs. 27% in Q214. Automotive gross margins were 24% and 29%, respectively.
  - 8% of Tesla revenue was Services and Other (third-party sales, used vehicle sales), in which Apple is unlikely to participate.

### RISKS TO ACHIEVEMENT OF PRICE TARGET

Trends in end-markets; component pricing; competitive pressures.

### COMPANY DESCRIPTION

Apple is the leader in the mobile device and digital content distribution markets.

PRICE: US\$109.58

TARGET: US\$172.00

19x CY16E EPS of \$8.52

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Changes	Previous	Current
Rating	—	Overweight
Price Tgt	—	US\$172.00
FY15E Rev (mil)	—	US\$233,304.8
FY16E Rev (mil)	—	US\$239,862.9
FY15E EPS	—	US\$9.14
FY16E EPS	—	US\$9.22
52-Week High / Low	US\$134.54 / US\$92.00	
Shares Out (mil)	5,773.1	
Market Cap. (mil)	US\$632,616.3	
Avg Daily Vol (000)	60,254	
Book Value/Share	US\$21.77	
Net Cash Per Share	US\$35.14	
Debt to Total Capital	0.0%	
Div (ann)	US\$2.08	
Yield	1.90%	
Fiscal Year End	Sep	

### Price Performance - 1 Year



Source: Bloomberg

YEAR	REVENUE (US\$ m)								EARNINGS PER SHARE (US\$)							
	Dec	Mar	Jun	Sep	FY	CY	FY RM	CY RM	Dec	Mar	Jun	Sep	FY	CY	FY P/E	CY P/E
2014A	57,594.0	45,646.0	37,432.0	42,123.0	182,795.0	199,800.0	3.5x	3.2x	2.07	1.66	1.28	1.42	6.43	7.42	17.0x	14.8x
2015E	74,599.0A	58,010.0A	49,605.0A	51,090.8	233,304.8	234,515.9	2.7x	2.7x	3.06A	2.33A	1.85A	1.90	9.14	9.23	12.0x	11.9x
2016E	75,810.1	60,068.3	50,601.4	53,383.2	239,862.9	241,872.8	2.6x	2.6x	3.16	2.41	1.79	1.86	9.22	9.07	11.9x	12.1x

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**Early Apple Car Expectations**

We believe that every 40,000 Apple car units at a \$75K ASP would add 1% to CY21 revenue (detail below). We believe that Apple could hit a 30,000 unit number in its first year. There are two reasons we believe this is achievable. First, by 2021, we will have six more years from now for the electric car market to grow. Second, Tesla produced 35,000 cars in 2014, which we believe was really its first year as a mature product company. Apple already has the brand to attract luxury car consumers and the resources to produce a fully developed vehicle. After the first year, we believe Apple could grow units 100% in CY22 to 60,000 units (1.5% of revenue) and 67% growth in CY23 to 100,000 units (2.4% of revenue). While we have not modeled out revenue by line item beyond CY16, we expect roughly 5% revenue growth for Apple in CY17 and 3% each year thereafter for the purposes of our car revenue sizing. Finally, if you assume 25% gross margins on the car (vs. Tesla's 24%), 30,000 units would decrease Apple's gross margins by 11 bps (assumes a 40% company gross margin).

Long-Term Impact Of Apple Car						
	Revenue (b)	Growth	Car Units	Car ASP	Car Revenue (b)	Car %Total AAPL Revenue
CY16E	\$241,872.8					
CY17E	\$253,966.4	5%				
CY18E	\$261,585.4	3%				
CY19E	\$269,433.0	3%				
CY20E	\$277,516.0	3%				
CY21E	\$285,841.4	3%				
CY22E	\$294,416.7	3%	30,000	\$75,000	\$2,250	0.8%
CY23E	\$303,249.2	3%	60,000	\$75,000	\$4,500	1.5%
CY24E	\$312,346.6	3%	100,000	\$75,000	\$7,500	2.4%

Footnote: While we have not modeled out revenue by line item beyond CY16, we expect roughly 5% revenue growth for Apple in CY17 and 3% each year thereafter for the purposes of our car revenue sizing.

Source: Piper Jaffray

**Building The Long-Term Massive Success Model**

We believe a massive success for Apple with the car would be to replicate BMW's numbers. In 2014, BMW Group (BMW, Mini, Rolls Royce) sold 2.1M cars and 1.8M under the BMW brand. In 15 years as an automaker (around 2035), we believe selling 1.8M cars a year for Apple would be a considered a huge success. Based on OICA data, 67.7M consumer cars were sold globally in 2014 and Edmunds states that 16M were sold in the United States. 1.8M units at a \$75K ASP would yield \$135B in revenue to Apple and ~2.5% global car market share based on 2014 numbers. We note the difficulty in making long-term projections and aren't necessarily saying that we believe Apple can sell 1.8M cars a year, only that such a scenario would be viewed as a massive success and likely best case long-term scenario for investors. The difficult aspect of thinking 15-20 years out is that Apple's core business may look totally different. In 15 years, the smartphone is likely to have been replaced or in the process of being replaced by some type of augmented reality device. We expect Apple to play in whatever ultimately replaces the smartphone, but it's hard to say what the ASP or unit figures could be in the transition. Additionally, in 20 years, if the world evolves into an autonomous taxi model, the number of cars owned per person could meaningfully decline. The bottom line is that we believe the car is a market that is large enough to create a business to meaningfully complement Apple's mobile devices business long term despite the likely significant changes that will happen to those markets over the next few decades.

Qtrs & Years	Net Sales	Cost of Sales	GM	Gross Profit	R&D	% of Sales	SG&A	% of Sales	Op Ex	Oper Inc	Oper Margin	Int & Other	Pretax Inc	Tax Rate	Income Taxes	Net Inc	Diluted Shares	GAAP EPS	Y/Y Growth	Rev	EPS
Dec-09	15,683.0	9,272.0	40.9%	6,411.0	398.0	2.5%	1,288.0	8.2%	1,686.0	4,725.0	30%	33.0	4,758.0	29%	1,380.0	3,378.0	6,438.5	0.52	32%	-79%	
Mar-10	13,499.0	7,874.0	41.7%	5,625.0	426.0	3.2%	1,220.0	9.0%	1,646.0	3,979.0	29%	50.0	4,029.0	24%	955.0	3,074.0	6,460.1	0.48	49%	-73%	
Jun-10	15,700.0	9,564.0	39.1%	6,136.0	464.0	3.0%	1,438.0	9.2%	1,902.0	4,234.0	27%	58.0	4,292.0	24%	1,039.0	3,253.0	6,491.5	0.50	61%	-75%	
Sep-10	20,343.0	12,831.0	36.9%	7,512.0	494.0	2.4%	1,571.0	7.7%	2,065.0	5,447.0	27%	14.0	5,461.0	21%	1,153.0	4,308.0	6,501.8	0.66	67%	-76%	
Dec-10	26,741.0	16,443.0	38.5%	10,298.0	575.0	2.2%	1,896.0	7.1%	2,471.0	7,827.0	29%	136.0	7,963.0	25%	1,959.0	6,004.0	6,532.1	0.92	71%	75%	
Mar-11	24,667.0	14,449.0	41.4%	10,218.0	581.0	2.4%	1,763.0	7.1%	2,344.0	7,874.0	32%	26.0	7,900.0	24%	1,913.0	5,987.0	6,551.6	0.91	83%	92%	
Jun-11	28,571.0	16,649.0	41.7%	11,922.0	628.0	2.2%	1,915.0	6.7%	2,543.0	9,379.0	33%	172.0	9,551.0	23%	2,243.0	7,308.0	6,564.7	1.11	82%	122%	
Sep-11	28,270.0	16,890.0	40.3%	11,380.0	645.0	2.3%	2,025.0	7.2%	2,670.0	8,710.0	31%	81.0	8,791.0	25%	2,168.0	6,623.0	6,576.6	1.01	39%	52%	
Dec-11	46,333.0	25,630.0	44.7%	20,703.0	758.0	1.6%	2,605.0	5.6%	3,363.0	17,340.0	37%	137.0	17,477.0	25%	4,413.0	13,064.0	6,591.0	1.98	73%	116%	
Mar-12	39,186.0	20,622.0	47.4%	18,564.0	841.0	2.1%	2,339.0	6.0%	3,180.0	15,384.0	39%	148.0	15,532.0	25%	3,910.0	11,622.0	6,614.3	1.76	59%	92%	
Jun-12	35,023.0	20,029.0	42.8%	14,994.0	876.0	2.5%	2,545.0	7.3%	3,421.0	11,573.0	33%	288.0	11,861.0	26%	3,037.0	8,824.0	6,629.4	1.33	23%	20%	
Sep-12	35,966.0	21,565.0	40.0%	14,401.0	906.0	2.6%	2,551.0	7.5%	3,457.0	10,944.0	30%	(51.0)	10,893.0	25%	2,670.0	8,223.0	6,637.3	1.24	27%	23%	
Dec-12	54,512.0	33,452.0	38.6%	21,060.0	1,010.0	1.9%	2,840.0	5.2%	3,850.0	17,210.0	32%	462.0	17,672.0	26%	4,594.0	13,078.0	6,630.5	1.97	18%	0%	
Mar-13	43,603.0	27,254.0	37.5%	16,349.0	1,119.0	2.6%	2,672.0	6.1%	3,791.0	12,558.0	29%	347.0	12,905.0	26%	3,358.0	9,547.0	6,622.2	1.44	11%	-18%	
Jun-13	35,323.0	22,299.0	36.9%	13,024.0	1,178.0	3.3%	2,645.0	7.5%	3,823.0	9,201.0	26%	234.0	9,435.0	27%	2,535.0	6,900.0	6,469.9	1.07	1%	-20%	
Sep-13	37,472.0	23,601.0	37.0%	13,871.0	1,168.0	3.1%	2,673.0	7.1%	3,841.0	10,030.0	27%	113.0	10,143.0	26%	2,631.0	7,512.0	6,363.9	1.18	4%	-5%	
Dec-13	57,594.0	35,748.0	37.9%	21,846.0	1,330.0	2.3%	3,053.0	5.3%	4,383.0	17,463.0	30%	246.0	17,709.0	26%	4,637.0	13,072.0	6,310.2	2.07	6%	5%	
Mar-14	45,646.0	27,699.0	39.3%	17,947.0	1,422.0	3.1%	2,932.0	6.4%	4,354.0	13,593.0	30%	225.0	13,818.0	26%	3,595.0	10,223.0	6,156.7	1.66	5%	15%	
Jun-14	37,432.0	22,697.0	39.4%	14,735.0	1,603.0	4.3%	2,850.0	7.6%	4,453.0	10,282.0	27%	202.0	10,484.0	26%	2,736.0	7,748.0	6,051.7	1.28	6%	20%	
Sep-14	42,123.0	26,114.0	38.0%	16,009.0	1,686.0	2.6%	3,158.0	7.5%	4,844.0	11,165.0	27%	307.0	11,472.0	26%	3,005.0	8,467.0	5,972.1	1.42	12%	20%	
Dec-14	74,599.0	44,858.0	39.9%	29,741.0	1,895.0	2.5%	3,600.0	4.8%	5,495.0	24,246.0	33%	170.0	24,416.0	26%	6,392.0	18,024.0	5,881.8	3.06	30%	48%	
Mar-15	58,010.0	34,354.0	40.8%	23,656.0	1,918.0	3.3%	3,460.0	6.0%	5,378.0	18,278.0	32%	286.0	18,564.0	27%	4,995.0	13,569.0	5,834.9	2.33	27%	40%	
Jun-15	49,605.0	29,924.0	39.7%	19,681.0	2,034.0	4.1%	3,564.0	7.2%	5,598.0	14,083.0	28%	390.0	14,473.0	26%	3,796.0	10,677.0	5,773.1	1.85	33%	44%	
Sep-15	51,090.8	30,909.9	39.5%	20,180.9	2,196.9	4.3%	3,729.6	7.3%	5,926.5	14,254.3	28%	400.0	14,654.3	26%	3,854.1	10,800.2	5,696.1	1.90	Est	21%	34%
Dec-15	75,810.1	45,486.1	40.0%	30,324.0	2,198.5	2.9%	4,321.2	5.7%	6,519.7	23,804.4	31%	160.0	23,964.4	26%	6,230.7	17,733.6	5,619.1	3.16	Est	2%	3%
Mar-16	60,068.3	35,740.6	40.5%	24,327.6	2,282.6	3.8%	3,964.5	6.6%	6,247.1	18,080.5	30%	200.0	18,280.5	26%	4,752.9	13,527.6	5,606.1	2.41	Est	4%	4%
Jun-16	50,601.4	30,866.8	39.0%	19,734.5	2,428.9	4.8%	3,946.9	7.8%	6,375.8	13,358.8	26%	200.0	13,558.8	26%	3,525.3	10,033.5	5,593.1	1.79	Est	2%	-3%
Sep-16	53,383.2	33,097.6	38.0%	20,285.6	2,402.2	4.5%	4,057.1	7.6%	6,459.4	13,826.2	26%	200.0	14,026.2	26%	3,646.8	10,379.4	5,580.1	1.86	Est	4%	-2%
Dec-16	77,820.0	48,637.5	37.5%	29,182.5	2,412.4	3.1%	4,357.9	5.6%	6,770.3	22,412.2	29%	200.0	22,612.2	26%	5,879.2	16,733.0	5,567.1	3.01	Est	3%	-5%
FY 10	65,225.1	39,541.0	39.4%	25,684.1	1,782.0	2.7%	5,517.0	8.5%	7,299.0	18,385.1	28%	155.0	18,540.1	24%	4,527.0	14,013.1	6,473.0	2.16		52%	-76%
FY 11	108,249.0	64,431.0	40.5%	43,818.0	2,429.0	2.2%	7,599.0	7.0%	10,028.0	33,790.0	31%	415.0	34,205.0	24%	8,283.0	25,922.0	6,556.2	3.95		66%	83%
FY 12	156,508.0	87,846.0	43.9%	68,662.0	3,381.0	2.2%	10,040.0	6.4%	13,421.0	55,241.0	35%	522.0	55,763.0	25%	14,030.0	41,733.0	6,618.0	6.31		45%	60%
FY 13	170,910.0	106,606.0	37.6%	64,304.0	4,475.0	2.6%	10,830.0	6.3%	15,305.0	48,999.0	29%	1,156.0	50,155.0	26%	13,118.0	37,037.0	6,521.6	5.66		9%	-10%
FY 14	182,795.0	112,258.0	38.6%	70,537.0	6,041.0	3.3%	11,993.0	6.6%	18,034.0	52,503.0	29%	980.0	53,483.0	26%	13,973.0	39,510.0	6,122.7	6.43		7%	14%
FY 15	233,304.8	140,045.9	40.0%	93,258.9	8,043.9	3.4%	14,353.6	6.2%	22,397.5	70,861.3	30%	1,246.0	72,107.3	26%	19,037.1	53,070.2	5,796.5	9.14	Est	28%	42%
FY 16	239,862.9	145,191.1	39.5%	94,671.8	9,312.2	3.9%	16,289.7	6.8%	25,601.9	69,069.9	29%	760.0	69,829.9	26%	18,155.8	51,674.1	5,599.6	9.22	Est	3%	1%
CY 10	76,283.0	46,712.0	38.8%	29,571.0	1,959.0	2.6%	6,125.0	8.0%	8,084.0	21,487.0	28%	258.0	21,745.0	23%	5,106.0	16,639.0	6,496.4	2.56		63%	-64%
CY 11	127,841.0	73,618.0	42.4%	54,223.0	2,612.0	2.0%	8,308.0	6.5%	10,920.0	43,303.0	34%	416.0	43,719.0	25%	10,737.0	32,982.0	6,571.0	5.02		68%	96%
CY 12	164,687.0	95,668.0	41.9%	69,019.0	3,633.0	2.2%	10,275.0	6.2%	13,908.0	55,111.0	33%	847.0	55,958.0	25%	14,211.0	41,747.0	6,627.9	6.30		29%	26%
CY 13	173,992.0	108,902.0	37.4%	65,090.0	4,795.0	2.8%	11,043.0	6.3%	15,838.0	52,285.0	30%	940.0	50,192.0	26%	13,161.0	37,031.0	6,441.5	5.76		6%	-9%
CY 14	199,800.0	121,368.0	39.3%	78,432.0	6,606.0	3.3%	12,540.0	6.3%	19,146.0	59,286.0	30%	904.0	60,190.0	26%	15,728.0	44,462.0	6,015.6	7.42		15%	29%
CY 15	234,515.9	140,674.0	40.0%	93,841.9	8,347.4	3.6%	15,074.8	6.4%	23,422.2	70,419.7	30%	1,236.0	71,655.7	26%	18,875.8	52,779.9	5,730.8	9.23	Est	17%	24%
CY 16	241,872.8	148,342.5	38.7%	93,530.3	9,526.1	3.9%	16,326.5	6.8%	25,852.6	67,677.7	28%	800.0	68,477.7	26%	17,804.2	50,673.5	5,586.6	9.07	Est	3%	-2%

Current disclosure information for this company can be found at <http://piperjaffray.com/researchdisclosures>

		Mobile Device Sales						Mac Sales						Services			Other							
Qtrs & Years	iPhone						iPad / iPad Mini						Total			Services			Other					
	iPhone Sales	% of Sales	Y/Y Rev	iPhone Units	Y/Y Units	ASP	iPad Sales	% of Sales	Y/Y Rev	iPad Units	Y/Y Units	ASP	Total Mac Sales	% of Sales	Y/Y Rev	Total Mac Units	Total Mac ASPs	Services Total	% of Sales	Y/Y Rev	Other Total	% of Sales	Y/Y Rev	
Dec-09	5,578.0	35.6%	90%	8,737	100%	638							4,450.0	28.4%	25%	3,362	33%	1,323.6	1,795.0	11%	21%	469.0	3%	21%
Mar-10	5,445.0	40.3%	124%	8,752	131%	622							3,760.0	27.9%	27%	2,943	33%	1,277.6	1,961.0	15%	17%	472.0	3%	32%
Jun-10	5,334.0	34.0%	74%	8,398	61%	635	2,166.0	13.8%		251.54	226385%	662	4,399.0	28.0%	31%	3,472	33%	1,267.0	1,860.0	12%	25%	396.0	3%	16%
Sep-10	8,822.0	43.4%	92%	14,102	91%	626	2,792.0	13.7%		4,188		667	4,870.0	23.9%	22%	3,885	27%	0.0	1,905.0	9%	14%	477.0	2%	22%
Dec-10	10,468.0	39.1%	88%	16,235	86%	645	4,608.0	17.2%		7,331		629	5,430.0	20.3%	22%	4,134	23%	1,313.5	2,217.0	8%	24%	593.0	2%	26%
Mar-11	12,298.0	49.9%	126%	18,647	113%	660	2,836.0	11.5%		4,694		604	4,976.0	20.2%	32%	3,760	28%	1,323.4	2,377.0	10%	21%	580.0	2%	23%
Jun-11	13,311.0	46.6%	150%	20,338	142%	654	6,046.0	21.2%	179%	9,246	183%	654	5,105.0	17.9%	16%	3,947	14%	1,293.4	2,267.0	8%	22%	517.0	2%	31%
Sep-11	10,980.0	38.8%	24%	17,073	21%	643	6,868.0	24.3%	146%	11,123	166%	617	6,272.0	22.2%	29%	4,884	28%	1,281.6	2,407.0	9%	26%	640.0	2%	34%
Dec-11	23,950.0	51.7%	129%	37,044	128%	647	8,769.0	18.9%	90%	15,434	111%	568	6,598.0	14.2%	22%	5,198	26%	1,269.3	3,020.0	7%	36%	3,996.0	9%	574%
Mar-12	22,276.0	56.8%	81%	35,064	88%	635	6,264.0	16.0%	121%	11,798	151%	531	5,073.0	12.9%	2%	4,017	7%	1,262.9	3,171.0	8%	33%	2,402.0	6%	314%
Jun-12	15,821.0	45.2%	19%	26,028	28%	608	8,779.0	25.1%	45%	17,042	84%	515	4,933.0	14.1%	-3%	4,020	2%	1,227.1	3,203.0	9%	41%	2,287.0	7%	342%
Sep-12	16,645.0	46.3%	52%	26,910	58%	619	7,133.0	19.8%	4%	14,036	26%	508	6,617.0	18.4%	6%	4,923	1%	1,344.1	3,496.0	10%	45%	2,075.0	6%	224%
Dec-12	30,660.0	56.2%	28%	47,789	29%	642	10,674.0	19.6%	22%	22,860	48%	467	5,519.0	10.1%	-16%	4,061	-22%	1,359.0	3,687.0	7%	22%	3,972.0	7%	18%
Mar-13	22,955.0	52.6%	3%	37,430	7%	613	8,746.0	20.1%	40%	19,477	65%	448	5,447.0	12.5%	7%	3,952	-2%	1,378.3	4,114.0	9%	30%	2,341.0	5%	-3%
Jun-13	18,154.0	51.4%	15%	31,241	20%	581	6,374.0	18.0%	-27%	14,617	-14%	436	4,893.0	13.9%	-1%	3,754	-7%	1,303.4	3,990.0	11%	25%	1,912.0	5%	-16%
Sep-13	19,510.0	52.1%	17%	33,797	26%	577	6,186.0	16.5%	-13%	14,079	0%	439	5,624.0	15.0%	-15%	4,574	-7%	1,229.6	4,260.0	11%	22%	1,892.0	5%	-9%
Dec-13	32,498.0	56.4%	6%	51,025	7%	637	11,468.0	19.9%	7%	26,035	14%	440	6,395.0	11.1%	16%	4,837	19%	1,322.1	4,397.0	8%	19%	2,836.0	5%	-29%
Mar-14	26,064.0	57.1%	14%	43,719	17%	596	7,610.0	16.7%	-13%	16,350	-16%	465	5,519.0	12.1%	1%	4,136	5%	1,334.4	4,573.0	10%	11%	1,880.0	4%	-20%
Jun-14	19,751.0	52.8%	9%	35,203	13%	561	5,889.0	15.7%	-8%	13,276	-9%	444	5,540.0	14.8%	13%	4,413	18%	1,255.4	4,485.0	12%	12%	1,767.0	5%	-8%
Sep-14	23,678.0	56.2%	21%	39,272	16%	603	5,316.0	12.6%	-14%	12,316	-13%	432	6,625.0	15.7%	18%	5,520	21%	1,200.2	4,608.0	11%	8%	1,896.0	5%	0%
Dec-14	51,182.0	68.6%	57%	74,468	46%	687	8,985.0	12.0%	-22%	21,419	-18%	419	6,944.0	9.3%	9%	5,519	14%	1,258.2	4,799.0	6%	9%	2,689.0	4%	18%
Mar-15	40,282.0	69.4%	55%	61,170	40%	659	5,428.0	9.4%	-29%	12,623	-23%	430	5,615.0	9.7%	2%	4,563	10%	1,230.6	4,996.0	9%	9%	1,689.0	3%	-10%
Jun-15	31,868.0	63.2%	59%	47,534	35%	660	4,538.0	9.1%	-23%	10,931	-18%	415	6,030.0	12.2%	9%	4,796	9%	1,257.3	5,028.0	10%	12%	2,641.0	5%	49%
Sep-15	31,850.0	62.3%	35%	49,000	25%	650	4,250.0	8.3%	-20%	10,000	-19%	425	7,250.0	14.2%	9%	5,800	5%	1,250.0	5,068.0	10%	10%	2,672.0	5%	41%
Dec-15	51,300.0	67.7%	0%	76,000	2%	675	7,830.0	10.3%	-13%	18,000	-16%	435	7,250.0	9.6%	4%	5,800	5%	1,250.0	5,278.9	10%	10%	4,151.2	5%	54%
Mar-16	40,625.0	67.6%	1%	62,500	2%	650	5,060.0	8.4%	-7%	11,500	-9%	440	5,952.0	9.9%	6%	4,800	5%	1,240.0	5,495.6	9%	10%	2,935.7	5%	74%
Jun-16	31,040.0	61.3%	-1%	48,500	2%	640	4,620.0	9.1%	2%	10,500	-4%	440	6,262.0	12.4%	4%	5,050	5%	1,240.0	5,530.8	11%	10%	3,148.6	6%	19%
Sep-16	32,702.5	61.3%	3%	51,500	5%	635	4,180.0	7.8%	-2%	9,500	-5%	440	7,503.0	14.1%	3%	6,100	5%	1,230.0	5,575.7	10%	10%	3,422.0	6%	28%
Dec-16	52,000.0	66.8%	1%	80,000	5%	650	7,920.0	10.2%	1%	18,000	0%	440	7,442.0	9.6%	3%	6,100	5%	1,220.0	5,806.8	7%	10%	4,651.2	6%	12%
FY 10	25,179.0	38.6%	93%	39,989	93%	630	4,958.0	7.6%		7,710		665	17,479.1	27%	26%	13,662	31%	967.1	7,521.0	12%	17%	1,814.0	3%	23%
FY 11	47,057.0	43.5%	87%	72,293	81%	650	20,358.0	18.8%	311%	32,394	320%	626	21,783.0	20%	25%	16,735	22%	1,303.0	9,268.0	9%	23%	2,330.0	2%	28%
FY 12	78,892.0	50.3%	67%	125,046	73%	627	30,945.0	19.8%	52%	58,310	80%	531	23,221.0	15%	7%	18,158	9%	1,275.9	12,890.0	8%	39%	10,760.0	7%	362%
FY 13	91,279.0	53.4%	16%	150,257	20%	603	31,980.0	18.7%	3%	71,033	22%	448	24,483.0	13%	-7%	16,341	-10%	1,317.6	16,051.0	9%	25%	10,117.0	6%	-6%
FY 14	101,991.0	55.8%	12%	169,219	13%	599	30,283.0	16.6%	-5%	67,977	-4%	445	24,079.0	13%	12%	18,906	16%	1,278.0	18,063.0	10%	13%	8,379.0	5%	-17%
FY 15	154,682.0	66.3%	52%	232,172	37%	664	23,201.0	9.9%	-23%	54,973	-19%	422	25,839.0	11%	7%	20,678	9%	1,249.0	19,891.8	9%	10%	9,691.0	4%	16%
FY 16	155,667.5	64.9%	1%	238,500	3%	626	21,690.0	9.0%	-7%	49,500	-10%	505	26,967.0	11%	4%	21,750	5%	1,240.0	21,881.0	9%	10%	13,657.4	6%	41%
CY 10	30,069.0	39.4%	92%	47,487	89%	632	9,566.0	12.5%		15,041		653	18,459.0	24%	25%	14,434	28%	964.5	7,843.0	10%	20%	1,938.0	3%	24%
CY 11	60,539.0	47.4%	101%	93,102	96%	651	24,519.0	19.2%	156%	40,497	169%	611	22,951.0	18%	24%	17,799	23%	1,221.9	10,071.0	8%	27%	5,733.0	4%	196%
CY 12	85,402.0	51.9%	41%	135,791	46%	626	32,850.0	19.9%	34%	65,736	62%	505	22,142.0	13%	-4%	17,021	-4%	1,298.3	13,557.0	8%	35%	10,736.0	7%	87%
CY 13	93,117.0	53.5%	9%	153,493	13%	602	32,774.0	18.8%	0%	74,208	13%	441	22,359.0	13%	1%	17,117	1%	1,308.3	16,761.0	10%	24%	8,981.0	5%	-16%
CY 14	120,675.0	60.4%	30%	192,662	26%	612	27,800.0	13.9%	-15%	63,361	-15%	440	24,628.0	12%	10%	19,588	14%	1,262.0	18,465.0	9%	10%	8,232.0	4%	-8%
CY 15	154,800.0	66.0%	28%	233,704	21%	661	22,046.0	9.4%	-21%	51,554	-19%	426	26,145.0	11%	6%	20,959	7%	1,247.0	20,371.7	9%	10%	11,153.2	5%	35%
CY 16	156,367.5	64.6%	1%	242,500	4%	644	21,780.0	9.0%	-1%	49,500	-4%	440	27,159.0	11%	4%	22,050	5%	1,232.5	22,408.9	9%	10%	14,157.4	6%	27%

**IMPORTANT RESEARCH DISCLOSURES**



Notes: The boxes on the Rating and Price Target History chart above indicate the date of the fundamental Equity Research Note, the rating and the price target. Each box represents a date on which an analyst made a change to a rating or price target, except for the first box, which may only represent the first Note written during the past three years.

Legend:

- I: Initiating Coverage
- R: Resuming Coverage
- T: Transferring Coverage
- D: Discontinuing Coverage
- S: Suspending Coverage
- OW: Overweight
- N: Neutral
- UW: Underweight
- NA: Not Available
- UR: Under Review

Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
<b>BUY [OW]</b>	<b>438</b>	<b>60.50</b>	<b>106</b>	<b>24.20</b>
<b>HOLD [N]</b>	<b>268</b>	<b>37.02</b>	<b>10</b>	<b>3.73</b>
<b>SELL [UW]</b>	<b>18</b>	<b>2.49</b>	<b>0</b>	<b>0.00</b>

Note: Distribution of Ratings/IB Services shows the number of companies currently covered by fundamental equity research in each rating category from which Piper Jaffray and its affiliates received compensation for investment banking services within the past 12 months. FINRA rules require disclosure of which ratings most closely correspond with "buy," "hold," and "sell" recommendations. Piper Jaffray ratings are not the equivalent of buy, hold or sell, but instead represent recommended relative weightings. Nevertheless, Overweight corresponds most closely with buy, Neutral with hold and Underweight with sell. See Stock Rating definitions below.

**Analyst Certification — Gene Munster, Sr Research Analyst**

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- **Neutral (N):** Anticipated to perform in line relative to the median of the group of stocks covered by the analyst.
- **Underweight (UW):** Anticipated to underperform relative to the median of the group of stocks covered by the analyst.

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