

## iRobot Corporation.

NASDAQ:IRBT

**Analyst:** Justin Capuano

**Sector:** Consumer Disc.

**BUY**

Price Target: \$67.26

### Key Statistics as of 10/21/2016

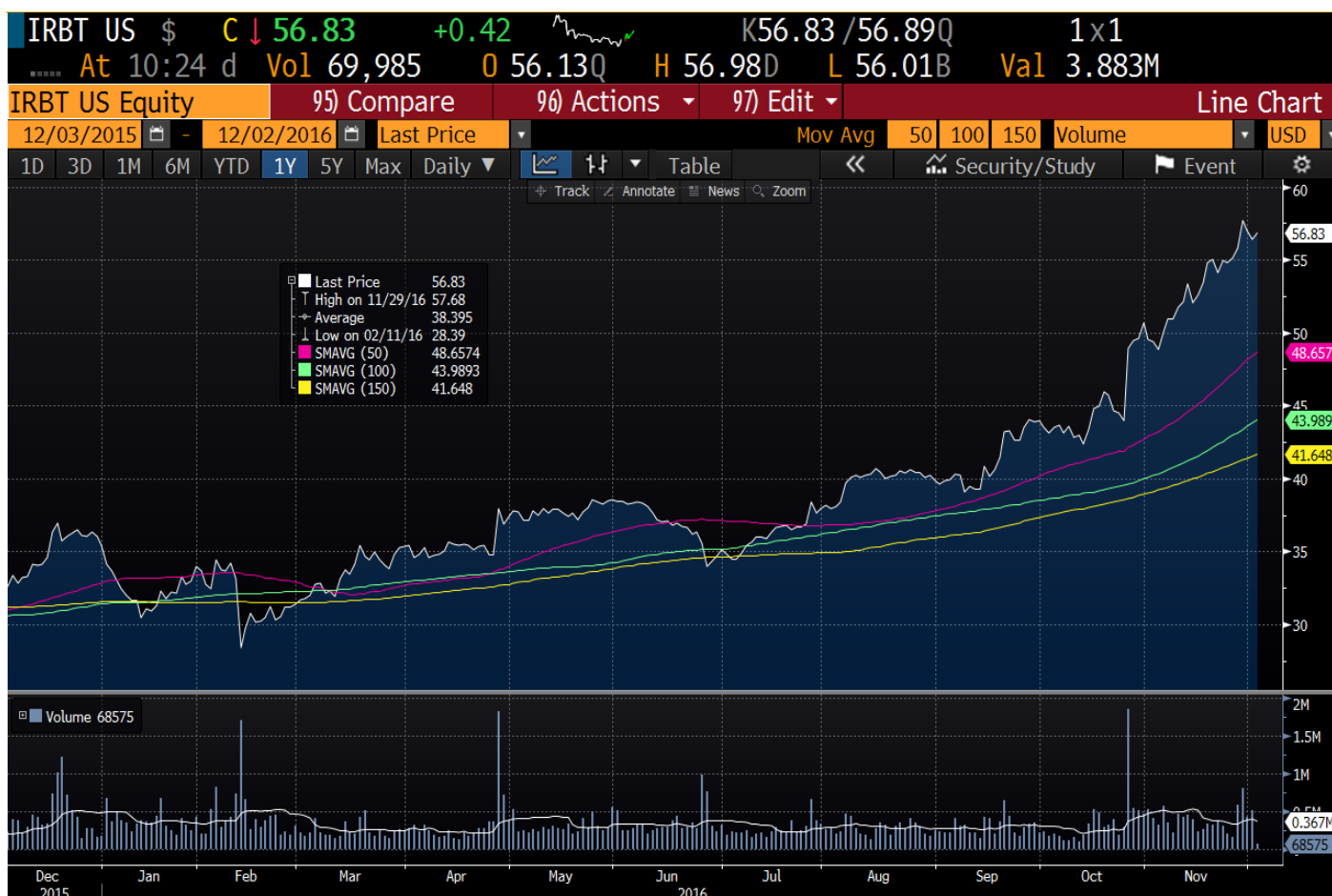
Market Price: \$55.89  
 Industry: Household Appliances  
 Market Cap: \$1.547B  
 52-Week Range: \$28.02-\$58.17  
 Beta: 1.10

### Catalysts:

- **Short Term:** Holiday spending reports in the US and Asian Countries.
- **Mid Term:** Development of incremental income stream. International expansion plans.
- **Long term:** Strategic Acquisitions. Growth of RVC market. Maturation of advanced new product ideas.

### Company Description:

iRobot Corporation is a Bdesigns, builds, and sells industry leading household robots using patent protected technology incorporating advanced concepts in autonomous navigation, mobility, manipulation and artificial intelligence. Its product offerings include: the Roomba , a robotic vacuum cleaner (RVC) line, the Braava Jet and 300, a robotic mop line, the Mirra, the robotic pool cleaning line, and the Looj, a robotic gutter cleaning line. The company sells its robots domestically and internationally through distribution channels including chain stores, national retailers, online direct to consumer store, and value added distributors and resellers. iRobot was founded in 1990 by engineers from the Massachusetts Institute of Technology and is based out of Bedford, Mass.



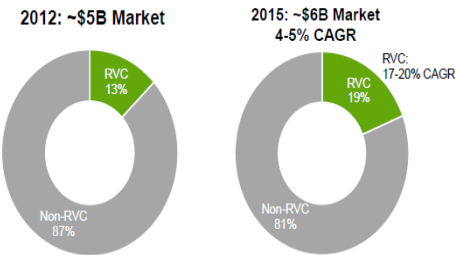
**Thesis**

Reverting back to its core value of consumer robotics has proved to be successful as iRobot sold off its defense and security segment in early 2016, generating nearly an 80% return in share price. Despite trading near all time highs, IRBT is still undervalued as the outlook for future growth seems more than promising. First class products like the Roomba and Braava are going to capture to be strongholds in the growing RVC market in China. Its lack of debt and strategic cash allocation provide room for iRobot to penetrate untapped markets. I am proposing a BUY rating at \$55.50.

**Industry Outlook**

Robotic vacuum cleaners have witnessed a surge in demand in the US and abroad over the past 3 years and the trend is expected to continue as consumers look for alternate ways to effortlessly clean their homes. Many new private firms have entered the market to take advantage of the increase demand and in turn, stealing market share from the mature competition. Firms seek competitive advantages by acquiring and developing proprietary patent protected technology. Further effecting the growth of the RVC industry is the total global market for vacuum cleaners.

Global Vacuum Cleaner Market >\$200 (USD, Retail)\*



**RVC segment (>\$200) growth expected to significantly outpace overall vacuum cleaner market growth (>\$200)**

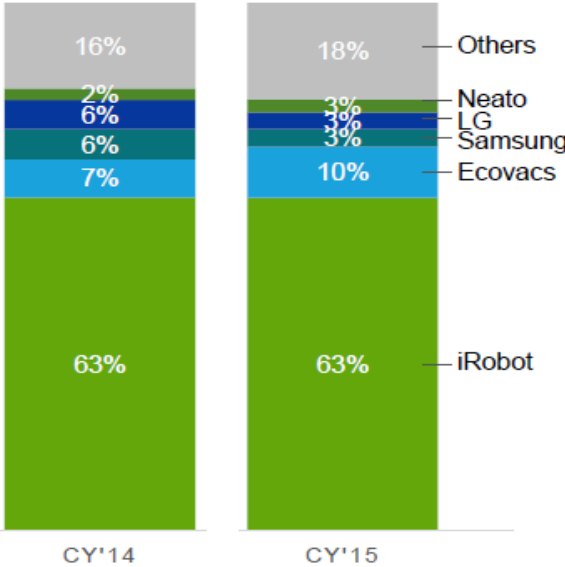
The market for vacuum cleaners with average prices over \$200 grew by nearly 5% cagr from 2012 to 2015, but the RVC segment of the market grew nearly 20% cagr during the same time frame. RVC proliferation has resulted in gaining market share but normal vacuum cleaners still pose a threat to future growth. Overall, the outlook for the RVC industry is showing

an upward trend of growth as technology continues to improve and as companies take advantage of opportunities in emerging markets. iRobot is the only public company whose focus revolves around robotic household appliances. Its direct competitors are private tech firms; Ecovacs and Neato, and arms of giant tech firms that provide a variety of different electronic products such as LG and Samsung. Both groups of competitors do not provide access to financial information about their robotic household products, creating difficulty for comparison purposes.

**Leading Market Share**

iRobot is currently the number one player in the RVC industry because of the success of its Roomba product line.

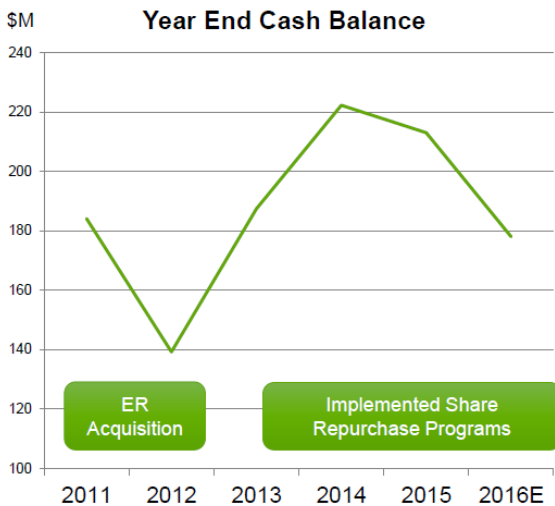
**Global Retail \$ Segment Share**



iRobot has easily achieved leadership status year over year by obtaining a 63% market share over recent years and plans to maintain this premier level of market share as they move forward. Despite increasing competition, the Roomba continues to dominate the market because of its strong reputation of reliability, performance, and ease of use. The newest Roomba, the R690 model, is equipped with advanced mapping and navigation technology, cloud connectivity, and intelligent cleaning capabilities that make it superior to other products on the market. New models will feature improved technology and lower price points that will attract a broader customer base.

iRobot has successfully maintained its ability to finance its operations without borrowing short or long term debt. This has effectively freed up additional cash that it would not have access to if the company needed to make loan payments. So this begs the question:

**How does iRobot plan to allocate its cash balance to deliver returns to its shareholders?**



First, let's look at what they did in the past. The graph above illustrates annual ending cash balance, and the major uses of cash over the past 6 years. The dip in 2012 can be attributed to the \$74 million all cash purchase of Evolution Robotics that expanded iRobot's technology base and robotic engineering talent. Also, since iRobot does not pay dividends, they implemented a \$75 million share buy back program that was completed in Q3 of 2016. These past decisions were drivers of shareholder return over time.

**International Growth:** iRobot may be the leader in global market share for the RVC industry but it is currently second in class in terms of total market share behind competitor Ecovacs in China. Management is already starting to establish a base for expansion by strategically opening an office in Shanghai to gain a better understanding of the Chinese consumer and to set up teams to have a better control over marketing and distribution. The Chinese market is an attractive source of future growth because management believes that it will take the top spot as the largest global market for consumer robots within the next 5 years. The new Braava Jet was launched in Q3 2016 with positive remarks and we will be one of the main drivers of international growth.

**Wet Floor Care Market:** The Braava robot will be the main driver for international growth because of the strong prevalence of hard wood floors in Asian countries that require wet mopping. The Braava is the industry leader in terms of wet floor care robots due to a lack of competition, but is still in its infant stage of marketing. Management ramped up marketing and advertising spending in Japan to increase demand for the product after its early 2016 launch. As of today, the BraavaJet 240 is the top selling robotic cleaner in Japan, and the Braava 380 takes second place. The popularity in Japan serves as a launching pad for the products acceptance in China. Also, the Braava provides a tremendous opportunity for an additional source of revenue because of the proposed launch of consumable cleaning pads. The BraavaJet is the first iRobot product that will use a consumable model, offering 3 types of interchangeable cleaning pads for wet mopping, damp sweeping, or dry sweeping. After only 6 months in the Japanese market, customers are purchasing around 3 boxes of pads per BraavaJet robot. This will provide a safe and easy revenue stream in the future as the BraavaJet becomes more popular, and as the consumable model transfers to other iRobot products.

**Acquisitions:** Since 2004, iRobot has partnered with Sales on Demand Corp (SODC) to distribute its products in Japan. However, on November 21, 2016, the company bought out the distribution arm of SODC in a \$14-\$16 million all cash deal that will close in April 2017. iRobot believes that the acquisition will give them more control over its Japanese operations and will generate over \$20 million of revenue in 2017 alone while increasing its presence in the Asian market.

The company does not hesitate to look outside of its own operations to grow revenues and new product lines. Management is currently in the planning stages of launching a robotic lawn mowing product. Many small tech firms with the proper technology exist while iRobot has the cash on hand to purchase the new technology if it does not create it internally.

## Financial Snapshot

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iRobot's financial overview is displayed in the table below and will not be compared to competitors due to a lack of accessible information.

IRBT	2013	2014	2015	LTM from 10/01/2016
Revenue Growth	11.70%	14.20%	10.80%	14.90%
Gross Margin	45.40%	46.30%	46.80%	47.30%
Operating Margin	8.10%	9.80%	9.90%	10.10%
SGA Margin	25.30%	24.30%	24.70%	25.70%
R&D Margin	13.10%	12.50%	12.30%	11.90%
Net Margin	5.70%	6.80%	7.20%	7.30%
ROIC	20.0%	19.3%	8.0%	15.4%

Launches of the new versions of the Roomba and Braava product lines in 2016 generated a tremendous returns on the top and bottom lines for the last twelve months. iRobot will continue to display high rate of returns maintains its leading market share and further implements its international strategies, but may see a short term reduction in operating margin as the plans require for increases in S,G,&A and research and development. More boots are needed on the ground at the international locations and new product testing needs to be administered so their technology always outlasts its peers. The marginal negative impact will be short lived because the increase in units sold in China and Japan will increase economies of scale, effectively lowering operating margins and production costs in the mid to long term. iRobot's leading place in the market sets them up for room to grow.

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## Summary

iRobot is in position to ride the upward trend in the household robotics market with their current plans to expand their geographic base in China and Japan. Strategic capital allocation, lack of debt, first class products, and many competitive advantages all show that IRBT is currently undervalued with an intrinsic value of \$58.76. The 1 year target price is set at \$67.26 and is easily achievable.

**iRobot Corporation (IRBT)**

**CENTER FOR GLOBAL FINANCIAL STUDIES**

**NEUTRAL**

Analysis by Justin Capuano  
12/2/2016

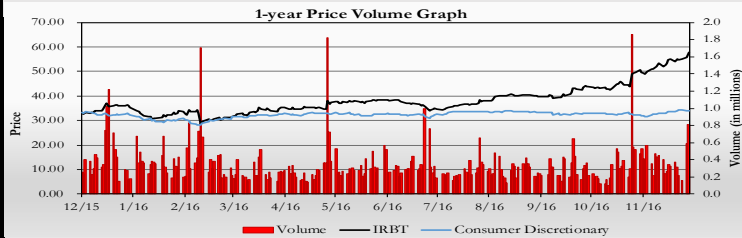
Current Price: \$56.67  
Divident Yield: 0.3%

\$56.67  
0.3%

Intrinsic Value: \$58.76  
Target Price: \$67.26

\$58.76  
\$67.26

Target 1 year Return: 19.01%  
Probability of Price Increase: 90.2%

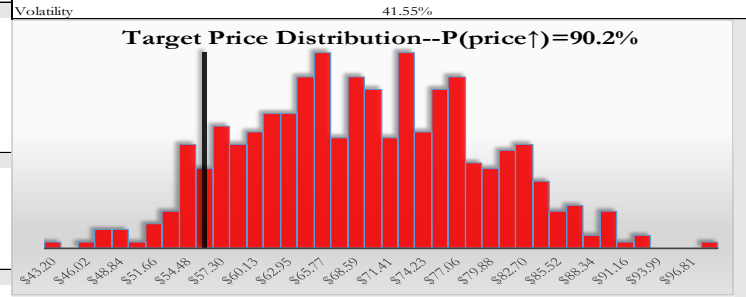


Description	
iRobot Corporation designs, builds, and sells robots for the consumer market worldwide.	
General Information	
Sector	Consumer Discretionary
Industry	Household Durables
Last Guidance	November 3, 2015
Next earnings date	February 5, 2017
Estimated Country Risk Premium	4.00%
Effective Tax rate	29%
Effective Operating Tax rate	25%

Market Data	
Market Capitalization	\$1,530.55
Daily volume (mil)	0.03
Shares outstanding (mil)	27.13
Diluted shares outstanding (mil)	28.73
% shares held by institutions	87%
% shares held by investments Managers	78%
% shares held by hedge funds	5%
% shares held by insiders	3.30%
Short interest	16.03%
Days to cover short interest	12.08
52 week high	\$58.17
52-week low	\$28.02
Levered Beta	1.60
Volatility	41.55%

Past Earning Surprises		
Quarter ending	Revenue	EBITDA
9/26/2015	-2.18%	16.92%
1/2/2016	0.69%	-25.51%
4/2/2016	-0.23%	2.09%
7/2/2016	-0.87%	-14.54%
10/1/2016	6.72%	10.33%
Mean	0.83%	-2.14%
Standard error	1.5%	7.9%

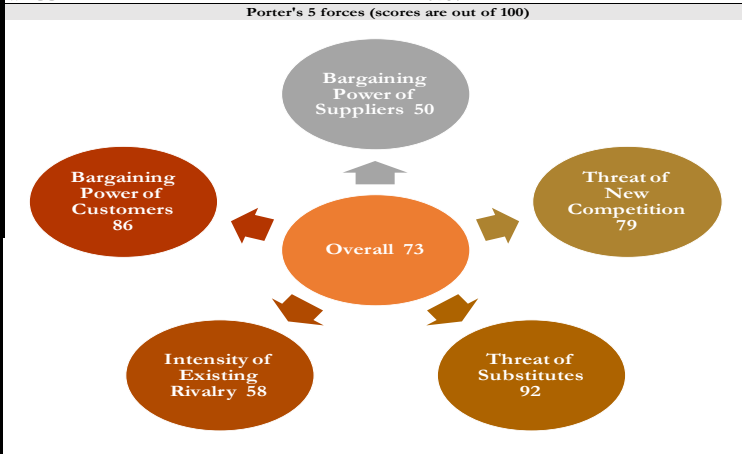
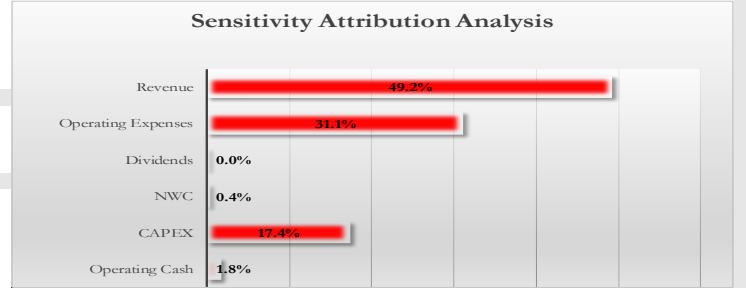
Peers	
LG Electronics	-6.27% per annum over 4y
Samsung Electronics	1.69% per annum over 1y
Ecovacs Group (Private)	0% per annum over 0y
NeatoRobotics (Private)	1.69% per annum over 1y
	-6.27% per annum over 4y
	N/M



Management		Position	
Angle, Colin	Co-Founder, Chairman, Chief		
Dean, Alison	Chief Financial Officer, Pri		
Cerda, Christian	Chief Operating Officer		
Weinstein, Glen	Chief Legal Officer, Executi		
Campanello, Russell	Executive Vice President of		
Caffrey, Elise	Senior Vice President of Inv		

Total compensations growth		Total return to shareholders	
	-100% per annum over 4y		-6.27% per annum over 4y
	-100% per annum over 1y		1.69% per annum over 1y
	N/M		0% per annum over 0y
	-100% per annum over 1y		1.69% per annum over 1y
	-100% per annum over 4y		-6.27% per annum over 4y
	N/M		N/M

Profitability		IRBT (LTM)		IRBT (5 years historical average)		Industry (LTM)	
ROIC	15.4%	17.18%	10.12%	17.18%	10.12%	17.18%	10.12%
NOPAT Margin	16%	15.51%	9.4%	15.51%	9.4%	15.51%	9.4%
Revenue/Invested Capital	0.97	1.11	1.08	1.11	1.08	1.11	1.08
ROE	13.6%	14.70%	12.72%	14.70%	12.72%	14.70%	12.72%
Adjusted net margin	16%	15.35%	8.3%	15.35%	8.3%	15.35%	8.3%
Revenue/Adjusted Book Value	0.87	0.96	1.54	0.96	1.54	0.96	1.54
Invested Funds		IRBT (LTM)		IRBT (5 years historical average)		Industry (LTM)	
Total Cash/Total Capital	25.7%	29.0%	11%	29.0%	11%	29.0%	11%
Estimated Operating Cash/Total Capital	20.9%	24.3%	N/A	24.3%	N/A	24.3%	N/A
Non-cash working Capital/Total Capital	6.3%	7.1%	35%	7.1%	35%	7.1%	35%
Invested Capital/Total Capital	87.0%	83.7%	83%	83.7%	83%	83.7%	83%
Capital Structure		IRBT (LTM)		IRBT (5 years historical average)		Industry (LTM)	
Total Debt/Common Equity (LTM)	0.03	0.04	0.34	0.04	0.34	0.04	0.34
Cost of Existing Debt	6.00%	5.29%	3.58%	5.29%	3.58%	5.29%	3.58%
Estimated Cost of new Borrowing	6.11%	5.43%	3.58%	5.43%	3.58%	5.43%	3.58%
CGFS Risk Rating	D	C	CCC	D	CCC	D	CCC
Unlevered Beta (LTM)	1.56	1.48	1.02	1.48	1.02	1.56	1.02
WACC	10.23%	9.67%	7.57%	10.23%	9.67%	10.23%	7.57%



Period		Revenue growth	
Base Year	14.9%		
10/1/2017	10.2%		
10/1/2018	15.2%		
10/1/2019	16.1%		
10/1/2020	16.3%		
10/1/2021	14.6%		
10/1/2022	12.8%		
10/1/2023	11.1%		
10/1/2024	9.3%		
10/1/2025	7.6%		
10/1/2026	5.8%		
Continuing Period	4.0%		
Period		Invested Capital	
Base Year	\$319.92		
10/1/2017	\$363.11		
10/1/2018	\$470.60		
10/1/2019	\$593.18		
10/1/2020	\$672.22		
10/1/2021	\$686.06		
10/1/2022	\$813.41		
10/1/2023	\$928.14		
10/1/2024	\$1,061.01		
10/1/2025	\$1,214.90		
10/1/2026	\$1,379.17		
Continuing Period			

Valuation		NOPAT margin		ROIC/WACC	
	15.8%		1.50		1.50
	14.9%		1.54		1.54
	15.8%		1.59		1.59
	15.8%		1.62		1.62
	15.9%		1.66		1.66
	15.8%		1.65		1.65
	15.9%		1.65		1.65
	15.9%		1.63		1.63
	15.9%		1.59		1.59
	15.8%		1.54		1.54
	15.6%		1.48		1.48
	15.4%		1.40		1.40
Net Claims		Price per share			
	\$24.12		\$58.65		
	-\$22.94		\$67.01		
	-\$115.37		\$76.36		
	-\$211.80		\$86.36		
	-\$347.37		\$98.24		
	-\$454.26		\$109.35		
	-\$573.34		\$121.05		
	-\$702.77		\$133.17		
	-\$840.77		\$145.53		
	-\$984.87		\$157.95		
	-\$1,132.09		\$170.26		