

# iRobot Corporation (NASDAQ: IRBT)

**Consumer – Durable Household Product** 

### **Ruling the Smart Home**

May 27, 2018

iRobot Corporation is an American advanced technology company, focusing on developing and manufacturing autonomous robotic devices for the connected home. iRobot is currently the leading manufacturer of robotic vaccuum cleaners and floor moppers, offering high-quality products through a strong distribution network across the globe.

### **Opportunities to Progress in a Quickly Growing Market**

By spinning off the Defense & Security Robots business, iRobot currently progresses in the expanding Home Robots industry with good opportunities for growth, given its first mover advantage, patent-protected technologies and management's focus on improving household penetration. However, we also recognize growing competition in the space from other major players, which will be a major challenge to iRobot's earnings visibilities considering its impact on pricing and margins.

### Leveraging Leading Position through Streamlining Operations

By acquiring Robopolis and Sales on Demand Corporation's iRobot-related business in 2017, iRobot now manages over 75% of its global sales. In terms of strategy, we believe these acquisitions will enhance IRBT's market penetration in two key regions - Japan and EMEA. From a financial standpoint, management believed the acquisitions will play an important role in improving IRBT's sales and promotional activities to expand its margin in 2018.

#### Valuation

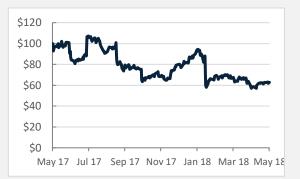
We determined a 12-month target share price of \$62 for IRBT, using equal weighting on our discounted cash flow analysis with terminal EV/EBITDA of 15.0x, along with 14.5x EV/EBITDA and P/E of 13.3x in 2019 from comparable company analysis. Given major challenges from competition and potential tariffs on Chinese imports, we initiate a Hold recommendation on iRobot Corporation.

Analyst: Phuong Vu, BCom. '20 contact@westpeakresearch.com

Equity Rese	arch		US
Price Targe	t		\$62.00
Rating			Hold
Share Price (N	1ay 25)		USD \$62.73
Total Return			-1.02%
Key Statistic	s		
52 Week H/L		\$10	09.78/\$55.77
Market Capita	alization		\$1.74B
Average Daily	Trading Volu	ime	1,045,804
Net Debt			\$(185)M
Enterprise Va	lue		\$1.8B
Diluted Share	s Outstanding	3	27.8M
Free Float			97.5%
WestPeak's	Forecast		
	<u>2017A</u>	<u>2018E</u>	<u>2019E</u>
Revenue	\$883.9M	\$1.07B	\$1.25B
EBITDA	\$98.2M	\$147.2M	\$166.1M
Net Income	\$51.0M	\$69.3M	\$89.4M

EPS	\$1.77	\$2.58	\$3.15
P/E	29.1x	24.3x	19.9x
EV/EBITDA	16.3x	11.1x	9.8x

WestPeak's Forecast





# **Business Overview/Fundamentals**

## **Business Summary**

iRobot Corporation (iRobot) designs and builds consumer robots with a range of products including vacuum cleaners, floor moppers, and other autonomous cleaning devices. The company was founded in 1990 in Delaware by three MIT graduates who worked at MIT's Artificial Intelligence Lab, with the vision of making practical robots a reality. In 2002, iRobot introduced the first Roomba<sup>®</sup> – an autonomous robotic vacuum cleaner, marking the company's first step in entering an entirely new category in home cleaning. Roomba<sup>®</sup> vacuum robots gained attention from consumers through its abilities to guide and navigate around the home, while automatically detecting and cleaning dirt. After launching Roomba<sup>®</sup> to the public, iRobot continued to introduce other innovative cleaning devices, including robot mops (Braava<sup>®</sup>) and pool cleaners (Mirra<sup>®</sup>). IRBT holds a patent portfolio consisted of more than 1,000 patents, covering self-navigating robotic technologies, object avoidances, etc. To date, the company has sold more than 20 million robots worldwide, becoming market leader in the robotic cleaning market by taking over 65% of the global market share.



Source: Company website

## Products

Prior to Q2-2016, IRBT operated in 2 segments, Home Robots and Defence & Security Robots. In April 2016, the company divested its Defence & Security business to Arlington Capital Partners to strengthen its position as the leading manufacturer of home robots and focus on developing technologies for the connected home. As of April 2018, IRBT operates in one single segment – Consumer Robots. The company manufactures and sells 3 major product lines, including **Roomba®**, **Braava®** and **Mirra®**.

### Roomba<sup>®</sup>

Roomba<sup>®</sup> (Roomba) is IRBT's signature vacuum cleaner, equipped with built-in 3-Stage Cleaning System (loosen, lift and suction dirt), intelligent sensors for navigation and decision-making, and a powerful cleaning system. Roomba robots can clean and suction dirt from different floor types, while moving along walls and under furniture. All currently available models have run time ranging from 60 to 120 minutes and are equipped with Dirt Detect<sup>™</sup> and Self-Charging technologies. Scheduling and Wi-Fi connectivity are available on the Roomba 690 and up.

# **IROBOT CORPORATION (NASDAQ: IRBT)** Ruling the Smart Home





Roomba<sup>®</sup> 614

Roomba® 690

Roomba\* 890 Roomba\* 960

Roomba® 980

Source: Company website

### **Braava**®

Launched in 2012, Braava<sup>®</sup> (Braava) is IRBT's home mopping robot and IRBT's second best-seller. Similar to Roomba vacuum robots, Braava is equipped with build-in sensors to navigate and clean hard-to-reach places such as under kitchen cabinets or around toilets using disposable or washable pads. IRBT currently manufactures and sells two Braava models including Braava jet 240 and Braava 380t. While the 380t model works on larger floor area with Pro-Clean System and work with a wide variety of washable and disposable pads and cloths such as Swiffer pads, the Braava jet<sup>™</sup> 240 cleans a smaller floor surfaces using Braava jet<sup>™</sup> disposable and washable cleaning pads.



### Mirra®

Mirra<sup>®</sup> (Mirra) is a pool cleaning robot designed and manufactured by IRBT. Mirra can scrub and remove leaves, hair, dirt, algae, pollens and bacteria as small as two microns while filtering over a gallon of water per second. Currently, Mirra 530 is the only pool cleaning robot manufactured and sold by IRBT. This robot offers complete pool coverage and can be operated through single push-and-play operation with the signature iRobot CLEAN button without affecting the pool's filtration system, hoses or booster pumps.



Source : Company website



### In Development

In 2015, IRBT received approval from FCC for developing, building and commercializing their new line of autonomous and wireless lawn mowing decides, using similar navigation and object recognition technologies to Roomba and Braava robots. The product is currently in developing stage and will diversify IRBT's product portfolio once being launched.

### **Divestiture of Defense and Security Business**

In Q1-2016, IRBT announced the divestiture of Defense and Security Business to Arlington Capital Partners for \$45 million in total consideration. This is a strategic move by iRobot to focus and further expand their consumer robot segment, which contributed over 90% of IRBT's total sales in FY2015. As a result, IRBT's sales continued to increase by 7% YoY in 2016. In terms of products, IRBT made a significant expansion to its mopping robot category through launching the newand-compact Braava jet robot in 2016, while targeting consumers on a mid-and-lower-end by introducing of Roomba 890 and 690 robots in 2017.

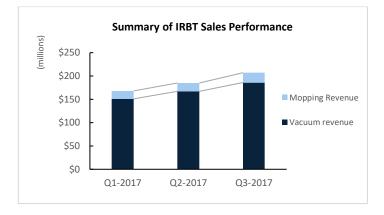
### **Product Conclusion**

Given their innovative technologies and their focus on creating robots to support the life inside and outside of the smart home, IRBT has been able to maintain their position as a leading producer of autonomous cleaning devices. Further advancement of current robotic technologies, combining with the company's efforts in expanding their product offerings will help IRBT to remain competitive in the consumer robot market.



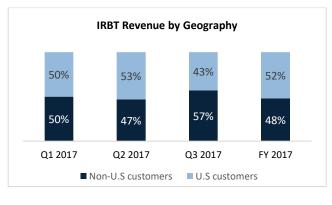
## **Revenue by Products & Geography**

IRBT generates revenue through manufacturing and selling its autonomous cleaning devices. During recent years, Roomba has been the major contributor to IRBT's revenue, given its rising popularity and given the shift in consumer preferences from upright/ handheld vacuum devices to autonomous vacuum cleaners. In FY2017, IRBT reported shipments of 3,193,000 vacuum units, generating total revenue of \$807 million. Roomba's lower average selling price (ASP) comparing to the prices quoted on the company's website resulted from multiple promotional programs ran by IRBT to accelerate product adoption. The company also recorded shipments of 131,000 mopping units, generating \$78.0 million in revenue. Beside mopping and vacuum robots, sales of other products did not significantly contribute to IRBT's revenue in FY2017.





IRBT's products are distributed via authorized retailers, online retailers and independent resellers. Historically, the company was recognized as the biggest player in the Robotic Vacuum Cleaner (RVC) segment, with 88% market share in North America market, 76% market share in EMEA market and 34% in the APAC RVC market. In 2017, the company reported sales to non-U.S. customers of 48.3% - decreasing by 2.4% from 51.2% of total sales recorded in 2016, due to pressure from competitors, which led to larger promotional reserves for China market. In Q4 2017, the company has started its first customer outreach program in China to drive the adoption of its premium robots, while continuing to focus on their other key markets such as U.S., EMEA and Japan.







## Dividends

IRBT has not declared or paid any dividends to common shareholders to date, nor plans to initiate one in the near future. CEO Colin Angle spoke to investors that he would use IRBT's profit to reinvest in the technologies and the future of the company to maintain its leading position in a rapidly expanding market.

# **Growth Strategy**

# **Streamlining Operations**

In April 2017, IRBT closed the acquisition of Sales on Demand Corporation (SODC)'s iRobot-related distribution business (including the distribution of Roomba, Braava and Mirra) in Japan. SODC is a major Japanese marketer and supplier of vacuum cleaners, air purifiers and other home electronics products. SODC and IRBT entered an exclusive distribution partnership in 2004, and SODC played an important role in continually establishing and improving IRBT's presence in such market. Taking over SODC's iRobot distribution business will allow IRBT to gain direct control over its sales in the largest consumer robotics market outside of North America, while building up on it leading position and accelerating adoption of its products in the region. This acquisition is expected to expand IRBT's revenue, gross margin and profit in 2018 and beyond.

In Q3-2017, IRBT also announced its acquisition of Robopolis SAS (Robopolis) – a French distributor of robotic products including vacuum cleaning, floor scrubbing and floor mopping robots for home, educational institutions and professional establishments. Robopolis is IRBT's exclusive and largest distributor in EMEA region, contributing to nearly half of IRBT's EMEA revenue in 2016. EMEA has been identified as one of IRBT's key strategic market; therefore, this acquisition will improve IRBT's market penetration in the region, while driving product adoption. Through acquiring Robopolis, IRBT expected to generate incremental revenue in 2017 and expand its margins in 2018.

## **Enforcement of Patent Portfolio**

As the leading manufacturer of consumer robots, IRBT holds a portfolio of more than 1,000 patents worldwide, covering technologies such as object avoidance, self-navigation, etc. The enforcement of these patents has protected IRBT from other rivals who attempted to imitate their technologies. In May 2017, IRBT has filed formal complaints to the U.S. International Trade Commissions against their competitors regarding patent infringement (violation of Section 337 of the Tariff Act of 1930). IRBT's rivals being investigated by the ITC included:



Ruling the Smart Home

No.	Company Name	Country
1	Bissell Homecare, Inc.	United States
2	Hoover Inc.	United States
3	Royal Appliance Manufacturing Co. Inc.	United States
4	Bobsweep, Inc.	Canada
5	Bobsweep USA	United States
6	The Black & Decker Corporation	United States
7	Black & Decker (U.S.) Inc.	United States
8	Shenzhen ZhiYi Technology Co., Ltd.	China
9	Matsutek Enterprises Co., Ltd.	Taiwan
10	Suzhou Real Power Electric Appliance Co., Ltd.	China
11	Shenzhen Silver Star Intelligent Technology Co., Ltd.	China
	Source: <u>Press release</u>	

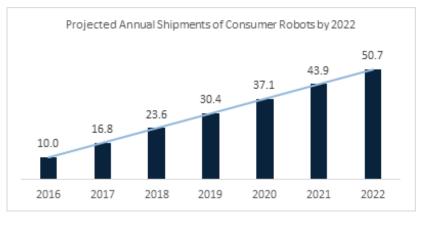
In September 2017, the company reached confidential agreements with Micro-Star International (MSi) where the MSi agreed to exit the robotic cleaning industry and to compensate IRBT with a monetary payment (amount not disclosed). In December 2017, IRBT also settled another agreement with Black & Decker, where B&D agreed to discontinue sales of robotic vacuum devices after clearing their inventories. By winning these legal disputes, IRBT has proven their efforts in protecting the intellectual properties developed through years of research and development. In 2017, IRBT spent a large portion of its legal and consulting costs (amounting to \$3.5 million) to defend and protect their intellectual properties to be duplicated by other low-cost producers.



# **Industry Analysis**

# **Consumer Robot Industry Overview**

Although the consumer robot industry is quickly growing, consumers have seen rising competition among big players during recent years. Current success of the industry is fuelled by strong growth in spending power around the world, together with consumers' increasing need for convenience. These two factors quickly drove the rate at which these products are adopted, leading to higher growth during recent years. According to Tractica, 10 million consumer robot units were shipped in 2016, and this number is expected to increase to 50.7 million annual shipments in 2022. Consumer robots are sold through retailers, such as Walmart, Best Buy, and Amazon, or directly from manufacturers to consumers.





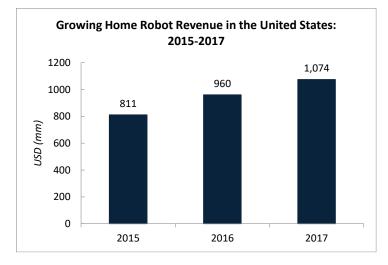
# Accelerating Household Penetration

The U.S. unemployment rate recently dropped down to 4.1% in December 2017, implying that a greater population of Americans are now parts of the labour force, with 85.8% of U.S males and 66.5% of females work more than 40 hours per week, making it harder for them to spend their hours on doing housework. In Asia, more female workers are now joining the workforce for part-time and full-time employment, resulting in less time for cleaning tasks. Therefore, many people now seek alternative solutions for convenient cleaning, creating an opportunity for sales of robotic vacuum cleaner to grow at a steady rate across the globe.

## **IROBOT CORPORATION (NASDAQ: IRBT)**

Ruling the Smart Home





#### Source: <u>Statista</u>

The new Roomba robots are equipped with floor mapping technologies, object avoidance sensors and Wi-Fi connectivity, allowing users to control their Roomba through Wi-Fi or cellular network via the iRobot HOME Application. The HOME App also let users track the status of their Roomba and map out its cleaning trip. These features satisfy Roomba users' needs for convenience by saving their time and efforts.

On the other hand, U.S. hardwood flooring imports in 2017 also grew by 23% year over year, suggesting more Americans are replacing their carpet flooring with hardwood. This opens an opportunity for IRBT's mopping robot - Braava, as they are equipped with IRBT's signature navigation technology, while tackling dirts and stains through mop and sweep modes. Newer Braava devices can also be controlled and scheduled through the iRobot HOME App, making mopping more convenient and flexible.

## **Dominance of Big Players**

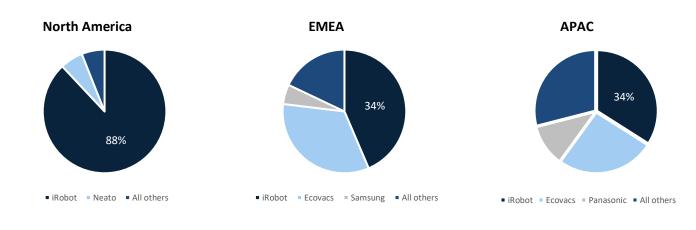
Entering the consumer robot market requires a high level of capital investment, strong capabilities in research, development, sales and marketing to remain competitive in terms of product offerings, while continuing to expand market share. Manufacturers of consumer robots compete on technologies, quality, selling price and advertising, with a main focus to bring convenience to users and transform the living experience in a smart home environment.

Due to intensive research and development and high capital requirements, the consumer robot industry is mainly dominated by companies with specializations in robotic technologies. Specifically, in the robotic vacuum cleaner (RVC) sub-sector, iRobot dominates the North America market with 88% share of retail dollars. In the EMEA market, iRobot continues to lead with 76% market share. APAC played out to be a more competitive market for producers due to its emerging nature where price is one of the main determinants. iRobot leads the APAC market with 34% of total market share, followed by Ecovacs, and by Panasonic with 11% total market share.

# **IROBOT CORPORATION (NASDAQ: IRBT)**

Ruling the Smart Home





Source: IRBT's presentation at NASDAQ 37th Investor Program

# Catalysts

# Acquisitions of Distribution Channels

Through the two recent acquisitions of Robopolis and Sales on Demand Corporation's iRobot distribution business, IRBT is looking to optimize its go-to-market strategy through improving market penetrations in Europe and APAC regions and expanding its geographical coverage. Management's emphasis on taking over control of their distribution helped IRBT to transition from a manufacturer of robots selling their devices through retailer to a "truly global company", with direct ownership of 75% of their global revenue - according to CEO Colin Angle. The most recent announcement of Robopolis acquisitions in July created significant appreciation of the stock: IRBT stock surged 22% over the subsequent week, indicating enthusiasm among investors. IRBT believes that by giving the company direct control over sales, marketing, branding, channel relationship and customer service in the key regions, these acquisitions will significantly increase IRBT's revenue and margins in 2018. However, people-related expenses are also expected to increase, due to additional headcounts from SODC and Robopolis.

# **Customer Outreach Programs**

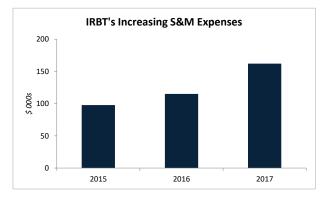
Management has outlined expectations to drive revenue growth of 19% to 22% through deeper household penetration of Roomba across the globe. Through two major acquisitions of Robopolis and SODC, management is looking forward to launch major strategic marketing programs in Japan and many western European countries. In 2017, IRBT has opened a new office in Shanghai, China and started implementing its first consumer outreach marketing program to drive market penetration in Asia. As a result of management's effort in executing newer marketing strategies, international consumer robot revenue grew by 3.7% in 2017. The company also invested significantly in its new Roomba marketing programs in the United States, which resulted in a significant return on investment. We believe that customer outreach programs and marketing strategies will be crucial for IRBT to maintain its current position in the industry, while sustaining the changing conditions of the market.



# **Risks**

# Growing Competition in the Market

iRobot is currently facing very strong competition from other consumer robot manufacturers, which is going to challenge its market share dominance. In September 2017, SharkNinja's introduced its new family of Shark ION ROBOT<sup>®</sup> with comparable functionalities but came at a lower selling price. This signals a major threat to IRBT's position, given SharkNinja's successful track records in displacing Dyson's traditional upright vacuums in the past. In the APAC market, IRBT also faces competitions from producers with lower ASP per unit offerings such as ECOVACS and ILIFE, whose products were recognized as "Best Sellers in Commercial Indoor Robotic Vacuums" and "Amazon's Choice for Robotic Vacuums" by Amazon. Recently, it is also reported that e-commerce giant Amazon is also looking to enter the home robot market with its own smart RVC device. As a result, to compete with new products coming regularly to the market, IRBT has adopted a more aggressive promotional strategy starting in Q3 of 2017, through spending heavily on advertising and rolling out discount programs.



#### Source: Company filings

While we believe that the market for robotic cleaning devices will likely continue to expand in the future, IRBT will have to take actions to fight against these competitors to retain their market share, either through launching promotional programs, introducing lower-priced models, or continuing to incorporate new technologies into their devices.

## **Intellectual Property Risk**

IRBT's market leading position is largely contributed by years of research and development, which resulted in a portfolio of more than 1000 patents around the world. Although IRBT has taken legal activities to protect its patent portfolios by suing competitors who attempted to imitate their technologies and has settled two agreements with MSi and Black & Decker, it remains unclear whether if other similarities in physical appearances and technologies will be determined as violations of intellectual activities.



## Potential Tariffs and Restriction on Chinese Imports

IRBT is currently outsourcing the manufacture of its consumer robots to contract manufacturers in China, considering lower price on parts and labour costs in the region. Current rising tensions regarding United States' government to limit trade with China or to impose an import tariff on imports from China might lead to management's decision on increasing selling prices in response to higher import expenses. Any decision from President Trump's administration on a trade restriction with China may negatively impact IRBT, either through the loss of customers or by hurting the company's margin.

# **Management Team**

## CEO and Founder – Colin M. Angle



Colin Angle is IRBT's Founder, and has been serving as the company's Chairman of the board since 2008, and Chief Executive Officer since 1997. Prior to that, Mr. Angle also served under several positions in the company's Board since 1992. As an industry pioneer, Mr. Angle has a vision for the future of practical robots, which according to him, is the start of "the smart home". Under Mr. Angle's leadership, IRBT has sold more than 20 million robotic devices worldwide, while forming strategic partnership with Clorox, Boeing and other companies. As CEO of IRBT, Mr. Angle receives total compensation of \$4,983,757, of which \$696,154 is classified as annual salary.

## Executive VP, Chief Financial Officer, Treasurer and Principal Accounting Officer – Alison Dean



Alison Dean has been served as IRBT's as the company's Executive Vice President, Chief Financial Officer, Treasurer and Principal Accounting Officer since April 2013. She joined IRBT in 2005 and served under several positions such as Vice President of Financial Controls and Analysis, Senior Vice President of Corporate Finance, etc. Prior to IRBT, Ms. Dean served as Vice President and Corporate Controller and Vice President of Finance – Worldwide Sales at 3Com Corporation. Her compensation totaled 2,176,991, of which \$455,385 is classified as annual salary.

## Executive Vice President, Engineering – Tim Saeger



Prior to being appointed as Executive VP of Engineering on March 2017, Tim Saeger served as IRBT's Senior VP of Engineering from August 2015. Before joining IRBT, Mr. Saeger was Vice President and General Manager of Bose Corporation's Home Entertainment division. In his role at IRBT, Mr. Saeger has successfully driven and developed new robotic technologies and played an important role in determining IRBT's growth prospects.



# Executive Vice President, Chief Legal Officer – Glen D. Weinstein

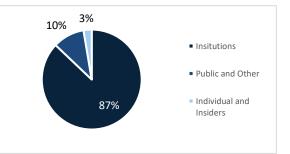


Glen D. Weinstein joined IRBT in 2000 as a general counsel, and has serviced as a senior VP from January 2015 to August 2012, prior to being appointed to his new role as Executive Vice President and Chief Legal Officer in August 2012. Mr. Weinstein advised IRBT on all general legal matters, including issues related to intellectual property, product development and distribution and financing. Before joining IRBT, Mr. Weinstein worked with Covington & Burling LLP, a law firm in Washington, D.C, specializing in matters related to licensing transaction, litigation and patent prosecution. Mr. Weinstein's compensation totalled \$1,456,363, of which \$377,693 is classified as annual salary.

# **Shareholder Base and Liquidity**

## Shareholder Summary

As of April 30<sup>th</sup> 2018, IRBT has 27.8 million common shares outstanding, of which 87% is held by Institutions, followed by Public and Other (10%) and Individuals/ Insiders (3%). There are approximately 1,177,000 stock options and restricted shares held by employees and other individuals. The fact that majority of IRBT's shareholders are institutional investors indicate institutional quality for this stock.

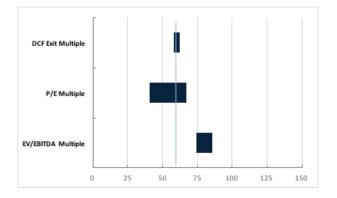


# Liquidity

As of April 20<sup>th,</sup> 2018, IRBT stock has an average daily trading volume of 1,045,804. With the stock's current price of \$62.73, this represents \$66 million worth of stock being traded, which indicates good trading liquidity for its 1.7 billion market capitalization.

# Valuation

Our valuation incorporated a 5-year Exit Multiple DCF (50%), an EV/EBITDA comparable analysis (25%) and a P/E comparable analysis (25%).





## **Discounted Cash Flow Analysis**

#### Revenue

The consumer robot market is currently growing quickly with 50 million of RVC devices expected to be shipped in 2022. Therefore, we forecasted revenue growth for IRBT to be 37.5% in 2018, given higher consumer spending across the globe as a result of low unemployment and impacts from the tax cut acts in the United States, together with the popularity of RVC devices among consumers and IRBT's current effort in increasing household penetration. We then forecasted revenue growth to level off at 20% in the following years to align with management's 3-year forecast for revenue growth, assuming accretion from its recent acquisition of Robopolis and SODC's iRobot-related business, and stronger product adoption from consumers.



Source: WestPeak estimates

### **Cost of Goods Sold**

COGS, as a % of total revenue, has historically been between 48.2% to 53.2% (most recently 49.6% in FY2017). FY2018 gross margin is expected to be approximately 50 - 51%. Although the cost of raw materials has historically been stable, the currently increasing wages across the globe might further increase labour expenses. Besides, potential tariffs on Chinese imports might put a pressure on COGS, since IRBT imports its raw materials from China. Therefore, we took on a conservative approach and assumed COGS, as a % of total revenue in the following years to be 51%.

### Selling and Marketing

We assumed S&M, as a % of total revenue to be 16% in the following years, considering its current consumer outreach program in the China market to drive adoption of premium robots, along with potential marketing activities in domestic and foreign markets to increase household penetration and attract prospective customers.



#### **General and Administrative**

Historically, IRBT has a G&A margin of 10%. Given IRBT's focus on protecting its intellectual property through legal disputes with competitors tempting to violate their patents, we expect more aggressive spending on legal and consulting fees. Therefore, we assume G&A margin of 12% going on forward.

#### **Research and Development**

Historically, IRBT's R&D margin has fluctuated between 15.1% and 10.3%. As the consumer robotic space is now getting more crowded, with companies competing on technologies and quality, we assumed that IRBT will spend 14% of its revenue on research and development activities, to continue improving the functionalities of its robotic devices and bring on new products to the market.

#### Weighted Average Cost of Capital (WACC) Calculation

We arrived to a calculated WACC of 12.63%, using a risk-free rate of 2.80% (based on the yield of 5-year U.S. Treasury bill), a beta of 1.10 calculated against S&P 500 and expected market return of 11.74% using the weighted average return of the S&P 500, and IRBT's debt-free capital structure.

#### **Exit Multiple**

Our comparable analysis has showed that on average, IRBT's peers trade at an average EV/EBITDA of 14.5x in 2019. Nonetheless, we should also note that these peers operate in established sectors with less exposure to growth opportunities. Considering IRBT's growth prospects from increasing product adoption and incremental revenue from recent acquisitions, we believe that IRBT should trade at a higher multiple comparing to its peer group. However, we also believe that growing competition in the space may drive down IRBT's current premium valuation at TEV/EBITDA of 16.3x and the company will gradually level off to align with their comparable peers. Therefore, we adopted an exit multiple of 15.0x EV/EBITDA for IRBT.

With IRBT's high-growth nature, we chose to use **\$60** implied share price from exit multiple method for a 50% weighting to our final valuation.

### **Comparable Company Analysis**

We selected comparable companies from the durable consumer goods sector within the consumer discretionary industry. While these peers might have different product offerings and are relatively larger by market capitalization, they have similar market presence and end users as IRBT's consumer robot segments. The following companies are included in our analysis:

#### GoPro, Inc. (NASDAQ: GPRO)

GoPro is an American Technology company, producing actions cameras, drones, mountable and wearable accessories and developing its mobile application and video-editing software. The company sells their devices through its direct or distribution channels in the Americas, EMEA and APAC markets.

Please see legal disclaimer at the bottom.



#### SodaStream International Ltd. (NASDAQ: SODA)

SodaStream is an Israeli company, producing the consumer home carbonation machines of the same name. The SodaStream machines add carbon dioxide from a pressurized cylinder to water to create soda water to drink. Besides, the company also sells CO2 refill packages and syrups and flavourings, allowing users to add flavours to their carbonated water. The company sell directly or through retailers in Western Europe, the Americas, Asia-Pacific, Central & Eastern Europe, Middle East and Africa regions.

#### **Techtronic Industry Company Limited (SEHK: 669)**

Techtronic Industries Company Limited engages in the design, manufacture, and trading of power tools. Accessories, hand tools, outdoor power equipment and floor care and appliances. The company has distribution across the globe, with most of its revenue coming from the North America and Europe markets. Techtronic Industries' brands include Milwaukee, Hoover, Dirt Devil, etc.

We applied a 50% weighting of our comparable company analysis to our final valuation, with equal weighting on EV/EBITDA and P/E implied prices of **\$88** and **\$40**, respectively.

# Recommendation

iRobot's currently operating in an expanding industry with good growth prospects, given its position as a leading producer of consumer robots, its patent-protected technologies and its strategies to increase its customer base, resulted in impressive growth in sales and margins through the years. Increasing female employment in APAC regions, along with growing needs for convenience also create great opportunities for sales of IRBT's devices. However, competition in the industry is quickly picking up with introductions of cheaper cleaning robots, yet comparable in terms of functionalities. Potential tariffs imposed on China imports and impact of intellectual property risk are also two main concerning points which might directly impact IRBT's sales and margins, and therefore will challenge the company's earnings visibilities. With an implied share price of **\$62**, we initiate a **Hold** recommendation on IRBT.

# Appendix 1: Pro-Forma Income Statement

	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
	FY2013	FY2014	FY2015	FY2016	FY2017	Q1-2017	Q2-2018	Q3-2018	Q4-2018	FY2018	FY2019	FY2020	FY2021	FY2022
Income Statement														
Revenue	487.4	556.8	616.8	660.6	883.9	217.1	251.8	282.4	292.2	1,043.5	1,252.2	1,502.6	1,803.2	2,163.8
Cost of revenue	266.2	298.8	327.9	341.3	438.1	96.5	128.4	144.0	149.0	518.0	638.6	766.3	919.6	1,103.5
Amortization of intangible assets					12.6	4.8				4.8				
Gross profit	221.2	258.1	288.9	319.3	433.2	115.8	123.4	138.4	143.2	520.7	613.6	736.3	883.6	1,060.3
R&D	63.6	69.4	76.1	79.8	113.1	32.9	35.3	39.5	40.9	148.6	175.3	210.4	252.4	302.9
S&M (adj. for D&A)	59.4	73.0	82.7	101.5	136.6	22.6	40.3	45.2	46.7	154.8	200.4	240.4	288.5	346.2
G&A	53.4	49.4	54.5	66.8	84.8	25.8	30.2	33.9	35.1	125.0	150.3	180.3	216.4	259.7
Amortization of intangible assets					0.4	0.3				0.3				
OPEX							-	-	-	-	-	-	-	-
EBITDA	44.8	66.2	75.7	71.2	98.2	34.2	17.6	19.8	20.5	92.0	87.7	105.2	126.2	151.5
D&A	12.2	13.0	15.1	13.6	25.5	8.7	5.9	5.8	5.6	26.0	21.9	19.7	17.7	16.0
EBIT	32.6	53.1	60.6	57.6	72.7	25.4	11.7	14.0	14.8	66.0	65.8	85.5	108.5	135.5
Interest expense							-	-	-	-	-	-	-	-
Other expenses (income)	(0.2)	(0.7)	2.4	3.8	3.7	0.5				0.5				
EBT	32.4	52.4	63.0	61.4	76.4	25.9	11.7	14.0	14.8	66.5	65.8	85.5	108.5	135.5
Income taxes	4.8	14.6	18.8	19.4	25.4	5.5	3.2	3.8	4.0	16.5	17.8	23.1	29.3	36.6
Net income	27.6	37.8	44.1	41.9	51.0	20.4	8.6	10.2	10.8	50.0	48.0	62.4	79.2	98.9
Shares outstanding, basic	28.5	29.5	29.6	27.7	27.6	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
Shares outstanding, diluted	29.4	30.2	30.1	28.3	28.8	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9
-														
Earnings per share, basic	\$ 0.97	\$ 1.28	\$ 1.49	\$ 1.51	\$ 1.85	\$ 0.73	\$ 0.31	\$ 0.37	\$ 0.39	\$ 1.79	\$ 1.72	\$ 2.23	\$ 2.83	\$ 3.53
Earnings per share, diluted	\$ 0.94	\$ 1.25	\$ 1.47	\$ 1.48	\$ 1.77	\$ 0.71	\$ 0.30	\$ 0.35	\$ 0.37	\$ 1.73	\$ 1.66	\$ 2.16	\$ 2.74	\$ 3.42



# Appendix 2: Pro-Forma Cash Flow Statement

	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
	FY2013	FY2014	FY2015	FY2016	FY2017	Q1-2017	Q2-2018	Q3-2018	Q4-2018	FY2018	FY2019	FY2020	FY2021	FY2022
Cash Flow Statement														
Operating activities														
Net income	27.6	37.8	44.1	41.9	51.0	20.4	8.6	10.2	10.8	50.0	48.0	62.4	79.2	98,9
Depreciation and amortization	12.2	13.0	15.1	13.6	25.5	8.7	5.9	5.8	5.6	26.0	21.9	19.7	17.7	16.0
Loss on disposal of property and equipment	0.2	0.2	0.2	0.2		0.7	5.8	5.0	5.0	20.0	21.0	13.7	17.7	10.0
Goodwill and intangible assets impairment	2.0	0.2												
Gain on sale of business unit	2.0	_	_	(0.4)	(1.3)	-								
Gain on business acquisition		_	_	(0.4)	(2.2)	-								
Income (loss) on equity method investment		_	_	(1.4)	0.1	-								
Impairment on cost method investment		_	_	-	0.2	-								
Gain on sale of cost method investment		_	(3.3)	(0.6)	-	-								
Stock-based compensation	13.4	13.8	(3.3)	(0.0)	19.8	5.9				5.9				
Deferred income taxes	(0.8)	3.1	(1.0)	3.6	(1.0)	(3.1)				(3.1)				
Tax benefit of excess stock based compensation		(3.1)	(1.5)	(3.0)	- (1.0)	(3.1)				(3.1)				
Non-cash director deferred compensation	(2.4)	(3.1)	0.1	(3.0)	- 0.1	- 0.0				- 0.0				
Deferred rent	-	0.0	0.1	0.1	-	1.1				1.1				
Other	-	-	-	-	- 1.8	0.4				0.4				
Cash flow before working capital	52.3	65.0	68.0	70.0	93.8	33.5	14.5	16.0	16.4	80.4	69.9	82.1	96.9	114.9
Accounts receivable	(9.9)	(31.7)	(33.6)	25.5	(53.3)	73.6	(31.2)	(12.2)	(3.9)	26.3	(8.3)	(25.0)	(30.1)	(36.1)
Unbilled revenue	(3.3)	(31.7)	(33.0)	0.2	(55.5)	13.0	(31.2)	(12.2)	(3.8)	- 20.3	(0.3)	(25.0)	(30.1)	(30.1)
Inventory	(9.4)	(1.6)	(14.0)	(1.0)	(1.5)	(4.2)	(8.8)	(14.7)	(4.7)	(32.4)	(10.0)	(30.1)	(36.1)	(43.3)
Prepaid expenses	(3.4)	(2.4)	(14.0)	(1.0)	(1.5)	(4.2)	(0.0)	(14.7)	(4.7)	(32.4)	(10.0)	(30.1)	(30.1)	(43.3)
Other assets	- 2.0	(2.9)	- 0.2	- 3.2	(10.6)	(6.1)				(6.1)				
Accounts payable	(1.7)	(2.9)	3.8	6.5	(10.0)	(46.5)	41.3	13.4	4.3	(0.1)	9.2	27.5	33.0	39.5
Accounts payable Accrued expenses	(1.7)	3.7		4.2	23.4	(46.5)	(20.9)	4.3	4.3	(34.9)	9.2 2.9	27.5	10.5	39.5 12.6
Accured compensation	7.8	(3.4)	(2.8) (0.5)	4.2 5.7	- 20.4	(19.7)	(20.9)	4.5	1.4	(34.9)	2.9	0.0	10.5	12.0
	(1.2)	(3.4)	(0.6)	3.0	- 2.1	(0.5)				(0.5)				
Deferred revenue														
Long-term liabilities	0.5 41.9	(1.0) 40.6	4.0	(0.9)	4.7 76.3	(0.4)	(5.0)	6.8	49.5	(0.4) 45.0	63.6	63.2	74.3	87.7
Cash flow from operating activities	41.9	40.6	26.7	116.4	76.3	29.8	(5.0)	0.0	13.5	45.0	03.0	03.2	74.3	07.7
Investing activities														
Additions of property and equipment	(6.8)	(13.8)	(9.4)	(10.8)	(23.4)	(8.7)	(4.7)	(4.6)	(4.5)	(22.5)	(17.5)	(15.8)	(14.2)	(12.8)
Change in other assets	(2.0)	(0.3)	(1.0)	(2.1)	(1.5)	0.4	-	-	-	0.4			· - ´	· - ′
Acquisitions	-	-	- 1	· - '	(148.8)	-	-	-	-	-		-	-	-
Proceeds from sale of cost method investment	-	-	5.6	0.6	1.3	-				-				
Purchase of investments	(17.9)	(31.2)	(17.8)	(16.6)	(10.6)	(6.4)				(6.4)				
Sales of investments	8.0	16.5	20.5	9.5	13.1	3.5				3.5				
Proceeds from sale of business unit	0.7	-	-	23.5	-	-				-				
Cash used in investing activities	(18.1)	(28.7)	(2.0)	4.2	(169.9)	-11.3	(4.7)	(4.6)	(4.5)	(25.1)	(17.5)	(15.8)	(14.2)	(12.8)
Financing activities														
Income tax withholding payment associated with		(1.6)	(1.3)	(1.3)	(3.0)	(3.5)				(3.5)				
Proceeds from stock option exercises	13.6	8.9	6.5	9.3	10.6	0.4				0.4				
Stock repurchases	-	(1.7)	(37.4)	(97.0)	-	-				-				
Tax benefit of excess stock based compensation	2.4	3.1	1.5	3.0	-	-				-				
Dividends paid	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash from financing activities	14.8	8.7	(30.8)	(86.0)	7.6	-3.1	•	-	-	(3.1)	•	-	-	-
EV effect										0.4				
FX effect	-	-	-	-	0.1	0.4	(0.7)			0.4		47.5		74.0
Net change in cash	38.6	20.6	(6.0)	34.6	-85.9	15.9	(9.7)	2.2	9.0	17.3	46.1	47.5	60.1	74.9
Beginning cash balance	126.8	165.4	186.0	179.9	214.5	128.6	144.5	134.8	136.9	128.6	145.9	192.0	239.5	299.6
Ending cash balance	165.4	186.0	179.9	214.5	128.6	144.5	134.8	136.9	145.9	145.9	192.0	239.5	299.6	374.5



# Appendix 3: Balance Sheet

	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
	FY2013	FY2014	FY2015	FY2016	FY2017	Q1-2017	Q2-2018	Q3-2018	Q4-2018	FY2018	FY2019	FY2020	FY2021	FY2022
Balance Sheet														
Current assets														
Cash and cash equivalents	165.4	186.0	179.9	214.5	128.6	144.5	134.8	136.9	145.9	145.9	192.0	239.5	299.6	374.5
Short-term investments	22.0	36.2	33.1	39.9	37.2	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Accounts receivable	39.3	71.1	104.7	72.9	142.8	69.5	100.7	113.0	116.9	116.9	125.2	150.3	180.3	216.4
Unbilled revenue	0.9	2.6	0.5	0.1	0.0		-	-	-	-	-	-	-	-
Inventory	46.1	47.9	61.7	50.6	106.9	112.1	120.9	135.6	140.2	140.2	150.3	180.3	216.4	259.7
Assets held for sale							-	-	-	-	-	-	-	-
Deferred tax assets	20.1	21.5	-	-			-	-	-	-	-	-	-	-
Prepaid expenses	-	-	-	-			-	-	-	-	-	-	-	-
Other assets	6.8	9.7	9.5	5.6	19.1	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Total current assets	300.7	374.9	389.3	383.7	434.7	390.7	420.9	450.0	467.6	467.6	532.1	634.6	760.8	915.1
Non-current assets														
Property and equipment	23.7	31.3	26.9	27.5	44.6	47.2	46.0	44.9	43.8	43.8	39.4	35.5	31.9	28.7
Deferred tax assets	10.1	8.4	31.7	30.6	31.5	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7
Goodwill	48.8	48.8	48.8	41.0	121.4	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2	123.2
Intangible assets	22.7	19.1	15.7	12.2	44.7	40.6	40.6	40.6	40.6	40.6	40.6	40.6	40.6	40.6
Other assets	10.5	10.8	9.4	12.9	14.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total non-current assets	115.7	118.4	132.4	124.2	256.8	258.7	257.6	256.4	255.3	255.3	250.9	247.0	243.4	240.2
Total assets	416.3	493.2	521.7	507.9	691.5	649.4	678.5	706.4	722.9	722.9	783.0	881.6	1,004.3	1,155.4
Current liabilities														
Current portion of long-term debt	-	-	-	-			-	-	-	-	-	-	-	-
Accounts payable	41.3	60.3	61.7	67.3	116.3	69.1	110.5	123.9	128.1	128.1	137.3	164.8	197.7	237.3
Accrued expenses	14.9	18.7	16.0	19.9	73.6	56.1	35.3	39.5	40.9	40.9	43.8	52.6	63.1	75.7
Accrued compensation	19.6	16.2	15.8	21.0	0.0		-	-	-	-	-	-	-	-
Deferred revenue and customer advances	5.1	3.8	3.3	4.5	7.8	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Liabilities held for sale				-			-	-	-	-	-	-	-	-
Total current liabilities	80.9	99.0	96.6	112.6	197.7	131.5	152.0	169.7	175.3	175.3	187.4	223.6	267.1	319.3
Non-current liabilities														
Deferred tax liabilities					9.5	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Long-term liabilities	4.7	3.7	7.7	6.3	13.9	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
Total non-current liabilities	4.7	3.7	7.7	6.3	23.5	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
Total liabilities	85.6	102.8	104.3	119.0	221.2	152.8	173.3	191.0	196.6	196.6	208.7	244.9	288.4	340.6
Shareholders' equity														
Common stock	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Additional paid-in capital	227.2	249.4	232.3	161.9	190.1	191.0	191.0	191.0	191.0	191.0	191.0	191.0	191.0	191.0
Retained earnings	103.1	140.9	185.0	227.0	278.0	299.4	308.0	318.2	329.1	329.1	377.1	439.5	518.7	617.6
Treasury stock	-	-	-	-	0.0		-	-	-	-	-	-	-	-
Accumulated other comprehensive income (loss)	0.1	(0.2)	(0.2)	(0.2)	2.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Total shareholders' equity	330.7	390.4	417.4	389.0	470.3	496.6	505.2	515.4	526.3	526.3	574.3	636.7	715.9	814.8
Non-controlling interest	-	-	-				-	-	-	-	-	-	-	-
Total equity	330.7	390.4	417.4	389.0	470.3	496.6	505.2	515.4	526.3	526.3	574.3	636.7	715.9	814.8



# Appendix 4: Revenue Analysis

	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
	FY2013	FY2014	FY2015	FY2016	FY2017	Q1-2017	Q2-2018	Q3-2018	Q4-2018	FY2018	FY2019	FY2020	FY2021	FY2022
Growth Analysis														
Consumer robot revenue growth, %		0.0%	0.0%		45.2%	28.8%	37.5%	37.5%	37.5%	35.6%	20.0%	20.0%	20.0%	20.0%
Home robot revenue growth, %		18.6%	10.3%											
Defense & security robot revenue growth, %		-9.0%	20.9%											
Other revenue growth, %		-58.8%	-45.2%											
Total revenue growth, %		14.2%	10.8%	7.1%	16.5%	28.8%	37.5%	37.5%	37.5%	35.6%	20.0%	20.0%	20.0%	20.0%
Segment Breakdown														
Consumer robots, mm				529.8	769.5	217.1	251.8	282.4	292.2	1,043.5	1,252.2	1,502.6	1,803.2	2,163.8
Home robots, mm	427.9	507.4	559.6	127.7	-	-	-	-	-	-	-	-	-	-
Defense & security robots, mm	50.0	45.5	55.0	3.1	-	-	-	-	-	-	-	-	-	-
Other revenue, mm	9.5	3.9	2.2	0.0	-	-	-	-	-	-	-	-	-	-
Total revenue, mm	487.4	556.8	616.8	660.6	769.5	217.1	251.8	282.4	292.2	1,043.5	1,252.2	1,502.6	1,803.2	2,163.8
Consumer robot revenue, %	0.0%	0.0%	0.0%	80.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Home robot revenue, %	87.8%	91.1%	90.7%	19.3%	0.0%									
Defense & security robot revenue, %	10.3%	8.2%	8.9%	0.5%	0.0%									
Other revenue, %	2.0%	0.7%	0.3%	0.0%	0.0%									
Total revenue, %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



# Appendix 5: WACC Calculations

Cost of Equity	
Risk-free rate	2.8%
Expected market return	11.7%
Market risk premium	8.9%
Beta	1.10
Cost of equity	12.6%
Cost of Debt	
Pre-tax cost of debt	0.0%
Effective tax rate	20.0%
Cost of debt	0.0%
WACC	
Total outstanding debt	-
Market value of equity	1,674.2
Total capitalization	1,674.2
Cost of equity	12.6%
Cost of debt	0.0%
WACC	12.6%

				W	ACC		
		13.63%	13.13%		12.63%	12.13%	11.63%
	13.0 x	\$ 52.59	\$ 53.46	\$	54.36	\$ 55.27	\$ 56.21
nal TD ∕a	14.0 x	\$ 55.45	\$ 56.38	\$	57.33	\$ 58.31	\$ 59.32
EBN	15.0 x	\$ 58.30	\$ 59.29	\$	60.31	\$ 61.35	\$ 62.42
EV/I E	16.0 x	\$ 61.16	\$ 62.21	\$	63.29	\$ 64.39	\$ 65.53
			65.12				

# Appendix 6: Discounted Cash Flow Analysis

	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
	FY2013	FY2014	FY2015	FY2016	FY2017	Q1-2016	Q4-2018	Q4-2018	Q4-2018	FY2018	FY2019	FY2020	FY2021	FY2022
Free Cash Flow														
EBIT	32.6	53.1	60.6	57.6	72.7	25.4	11.7	14.0	14.8	66.0	65.8	85.5	108.5	135.5
Less: Tax expense	(6.5)	(10.6)	(12.1)	(11.5)	(14.5)	(5.1)	(2.3)	(2.8)	(3.0)	(13.2)	(13.2)	(17.1)	(21.7)	(27.1)
Add: Depreciation and amortization	12.2	13.0	15.1	13.6	25.5	8.7	5.9	5.8	5.6	26.0	21.9	19.7	17.7	16.0
Less: Capital expenditures	(6.8)	(13.8)	(9.4)	(10.8)	(23.4)	(8.7)	(4.7)	(4.6)	(4.5)	(22.5)	(17.5)	(15.8)	(14.2)	(12.8)
Less: Change in net working capital	(10.4)	(24.4)	(41.3)	46.4	(17.5)	(3.7)	(19.5)	(9.2)	(2.9)	(35.4)	(6.3)	(18.9)	(22.6)	(27.2)
Unlevered free cash flow	21.1	17.4	12.9	95.3	42.8	16.6	(8.9)	3.1	10.1	20.9	50.7	53.5	67.7	84.4
Discount factor							0.25	0.50	0.75	0.75	1.75	2.75	3.75	4.75
Present value of unlevered free cash flow							(8.7)	3.0	9.2	3.5	41.2	38.5	43.3	48.0

Exit Multiple Method	
Terminal EV/EBITDA multiple	15.0 x
PV sum of unlevered FCF	174.5
PV of terminal value	1,291.2
Enterprise value	1,465.7
Add: Cash	278.2
Less: Debt	-
Less: Other EV adjustments	-
Equity value	1,743.9
Shares outstanding	28.9
Implied share price	\$ 60.31
Current price	\$ 62.73
Implied price	\$ 60.31
Total return	-3.9%



# Appendix 6: Comparable Company Analysis

					EV/EBTIDA				P/E Multiple	
Company	Ticker	Equity Value	Enterprise Value	NTM EV/EBITDA	2018E EV/EBITDA	2019E EV/EBITDA	NTM F	/E	2018E P/E	2019E P/E
GoPro Inc	NASDAQ:GPRO	708.2	590.9	-	-	17.4 x		-	-	-
Sodastream International Ltd.	NASDAQ:SODA	2,169.9	2,014.3	19.2 x	17.9 x	15.5 x	28	.1 x	28.1 x	24.1 x
Techtronic Industries Company Limited	SEHK: 669	10,363.8	10,300.3	13.9 x	12.2 x	10.7 x	18	.8 x	18.8 x	15.7 x
iRobot Corporation	NASDAQ:IRBT	1,830.7	1,664.4	 12.0 x	12.0 x	10.3 x	27	6 x	27.6 x	21.0 x
Median				13.9 x	12.2 x	15.5 x	18	8 x	23.5 x	15.7 x
Mean				 11.0 x	10.0 x	14.5 x	15	7 x	23.5 x	13.3 x
High				19.2 x	17.9 x	17.4 x	28	1 x	28.1 x	24.1 x
Low				 -		10.7 x	_		18.8 x	
				EV/EB	ITDA Implied	Price		P/I	E Implied Pri	ce
Median				\$ 73.21	\$ 64.71	\$ 93.00	\$ 43	.51	\$ 54.26	\$ 47.55
Mean				\$ 59.15	\$ 54.32	\$ 87.51	\$ 36	.17	\$ 54.26	\$ 40.22
High				\$ 98.47	\$ 92.47	\$ 103.67	\$ 65	.02	\$ 65.02	\$ 73.10
Low				\$ 5.78	\$ 5.78	\$ 65.86	\$	-	\$ 43.51	\$-



# **Legal Disclaimer**

The content, opinions, estimates, and projections contained in this report are those of WestPeak Research Association (known as "WestPeak" or "WestPeak Research") and its directors, analysts, and affiliates and are subject to change without notice. The content, opinions, estimates, and projections on this report may not have been updated directly by WestPeak and its directors, analysts, and affiliates and may also have been altered or without your or our knowledge. WestPeak and its directors, analysts, and affiliates, without exception, do not accept any liability for factual, typographical, and grammatical errors, omissions, or content in this report. WestPeak and its directors, analysts, and affiliates do not accept any liability for damages arising from the use of or reliance on any of the content, opinions, estimates, and projections on this report. WestPeak and its directors, analysts, and affiliates endeavour to ensure that the content, opinions, estimates, and projections have been compiled or derived from sources that we believe are reliable and contain information and opinions that are accurate and complete. Information may be available to WestPeak and its directors, analysts, and affiliates that is not reflected in this report. The information in this report is not intended to be used as the primary basis of investment decisions, and because of individual client objectives, should not be construed as advice designed to meet the particular investment needs of any investor. This report is for information purposes only and is not an offer to sell or the solicitation of an offer to buy any security. WestPeak and its directors, analysts, and affiliates may have a personal long or short position in any of the securities discussed herein, related securities or in options, futures or other derivative instruments based thereon. The reader should assume that WestPeak and its directors, analysts, and affiliates may have a conflict of interest and should not rely solely on this report in evaluating whether or not to buy or sell securities of issuers discussed herein. The reader, by the viewing of and use of the content, opinions, estimates, and projections contained in this report is assumed by WestPeak and its directors, analysts, and affiliates to have fully read, understood, and unconditionally agreed to all the terms and conditions set forth in this legal disclaimer.

Phuong Vu Analyst

WestPeak Research Association contact@westpeakresearch.com