

# **iRobot Corporation (IRBT)**

**\$72.21** (As of 09/03/20)

Price Target (6-12 Months): \$76.00

Long Term: 6-12 Months	Zacks Recon	Neutral			
	(Since: 08/19/20)				
	Prior Recommendation: Ou				
Short Term: 1-3 Months	Zacks Rank:	(1-5)	3-Hold		
	Zacks Style Scores:		VGM:B		
	Value: C	Growth: B	Momentum: A		

#### Summary

iRobot is well-poised to gain from its solid product offerings, focus on innovation and manufacturing diversification in the years ahead. In second-half 2020, it anticipates to benefit from healthy demand for Roomba and Braava products, strengthening sell-through and an uptick in the e-commerce business. Revenues are expected to grow in mid-single digits. Based on this, the company now expects 2020 revenues to remain flat to grow in low-single digits year over year compared with its previous projection of a revenue decline. However, it is exposed to risks arising from competition, weak global demand and supply-chain woes due to the pandemic. Also, its operating expenses are likely to rise sequentially in the third quarter and marketing expenses may escalate in the fourth quarter. In the past three months, its shares have underperformed the industry.

#### **Data Overview**

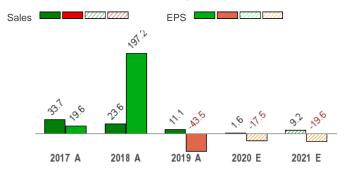
52-Week High-Low	\$89.26 - \$32.79
20-Day Average Volume (Shares	545,733
Market Cap	\$2.0 B
Year-To-Date Price Change	42.6%
Beta	1.61
Dividend / Dividend Yield	\$0.00 / 0.0%
Industry	Industrial Automation and Robotics
Zacks Industry Rank	Bottom 8% (231 out of 251)

Last EPS Surprise	404.8%
Last Sales Surprise	5.8%
EPS F1 Estimate 4-Week Change	7.3%
Expected Report Date	10/27/2020
Earnings ESP	-2.8%
P/E TTM	30.6
P/E F1	29.5
PEG F1	2.0
P/S TTM	1.7

### Price, Consensus & Surprise



### Sales and EPS Growth Rates (Y/Y %)



## Sales Estimates (millions of \$)

\*Quarterly figures may not add up to annual.

	Q1	Q2	Q3	Q4	Annual*
2021	208 E	291 E	332 E	490 E	1,347 E
2020	193 A	280 A	314 E	446 E	1,233 E
2019	238 A	260 A	289 A	427 A	1,214 A

#### **EPS Estimates**

	Q1	Q2	Q3	Q4	Annual*
2021	\$0.00 E	\$0.15 E	\$0.63 E	\$1.05 E	\$1.97 E
2020	-\$0.64 A	\$1.06 A	\$0.90 E	\$0.77 E	\$2.45 E
2019	\$0.96 A	\$0.25 A	\$1.24 A	\$0.70 A	\$2.97 A

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 09/03/2020. The reports text is as of 09/04/2020.

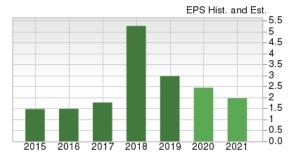
#### Overview

iRobot Corporation is one of the leading manufacturers of robots worldwide. The company is a leader not only in the domestic arena but also excels in the field of commercial usage. Notably, the company was founded in 1990 and is headquartered in Bedford, MA. In 2019, it generated around \$1.21 billion in revenues.

In second-quarter 2016, iRobot divested its Defense & Security business. Thereafter, it started generating the majority of revenues from the Consumer business. The company further strengthened its businesses through acquisitions of two distributors — Japan-based Sales On Demand Corporation and Europe-based Robopolis SAS — in 2017. These buyouts fortified iRobot presence in Spain, Germany, Belgium, Portugal, Austria, France, Japan and the Netherlands.

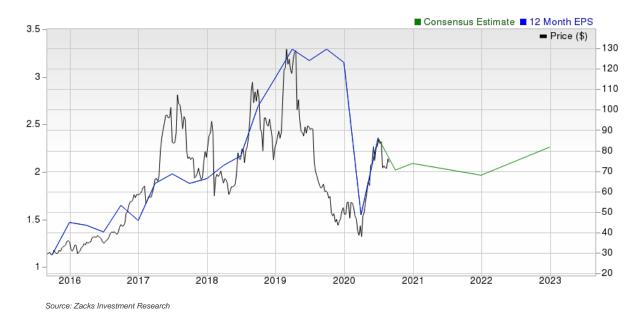
It is worth mentioning here that iRobot's Consumer business is related to the manufacturing of mobile robots. The company owns premium robotic brands such as Roomba, Braava, Mirra and Looj.

The above-mentioned robots feature proprietary technologies and help in domestic chores like vacuuming, floor scrubbing and mopping, pool cleaning, and gutter cleaning. The products are primarily sold via several distribution channels, which include chain stores, national retailers and online through iRobot's website as well as value-added distributors and resellers.





In addition to vacuuming and mopping products, the company entered the lawn care market as it unveiled Terra — a robot mower — in January 2019. Terra features state-of-the-art mapping and navigation technologies, high-quality mowing, and easy installation capabilities.



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### **Reasons To Buy:**

- ▲ In the second quarter of 2020, iRobot's earnings and revenues surpassed estimates by 404.76% and 5.82%, respectively. On a year-over-year basis, earnings expanded 120.8%, driven by healthy sales generation and improvement in margins. In the quarters ahead, the fulfillment of customer demand, workers' safety and maintaining business strength remain its priorities. Also, it is working on reducing costs through workforce reduction, the suspension of certain marketing actions for Terra and others. These measures might help in boosting margins. Also, the exclusion of Roomba products from tariffs imposed under section 301 aided gross margin in the second quarter of 2020. Extension of this permission through Dec 31, 2020 might continue to positively impact the company's margins. For the second half of 2020, gross margin is expected to be 39-40%, while that for the year will likely be in low-40s.
- ▲ iRobot's diversified product portfolio have been benefiting it over time. In second-quarter 2020, revenues derived from premium robots products having \$500 of more as list price increased by 43% year over year. Also, its innovation capabilities and manufacturing diversification might be beneficial in the quarter ahead. Notably, the company intends on bringing new capabilities in the
- Robust demand for existing Roomba and Braava products, strengthening sell-through and spur in e-commerce business are likely to aid iRobot's performances in the second half of 2020.
- Roomba products in the quarters ahead, while is also working diligently to limit its manufacturing exposure in China. In the second half of 2020, the company anticipates benefiting from healthy demand for advanced products Roomba i7, Roomba s9 and Braava jet m6 as well as strengthening sell-through and spur in the e-commerce business. Revenue growth in the second half is anticipated to be in mid-single digits. For 2020, the company now anticipates revenues to remain flat to grow in low-single digit from the 2019 level. Notably, the company earlier expected a year-over-year decline in revenues for 2020.
- ▲ iRobot strengthened the global household adoption rates of its Roomba and Braava products through several marketing programs. For instance, its television advertising campaign for Braava products in the United States has been instrumental in boosting demand for Braava products. Going forward, investments in building brand awareness via campaigning through traditional retail partners, in own app and website and online-retailers might play a significant role in boosting demand for products. In addition, the company's earnings estimates have moved 50% north for the third quarter and 47.6% for 2020 in the past 60 days.

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#### **Reasons To Sell:**

- ▼ In the past three months, iRobot's shares have decreased 11.9% against the industry's growth of 2.8%. Also, the company's shares are currently overvalued than the industry on a P/E (TTM) basis with the respective tallies of 33.59X and 28.96X. Also, the company's multiple seems to be higher than the industry's three-month highest level of 28.96X. This makes us cautious about the stock.
- ▼ Despite all the prevailing tailwinds for iRobot, the uncertainties related to the pandemic cannot be completely ignored. Challenges related to stiff competition, inventory-management by retailers, uneven demand trend across the globe and lower stimulus program by the government might be worrying. These along with challenges related to sourcing raw materials in a cost-effective manner, especially when the pandemic has disrupted the supply chain, remain concerning.
- ▼ iRobot conducts business in a highly competitive market and so to stay in business, it has to invest in development and marketing of products. These expenses, if uncontrolled, can be a serious threat to the company's margin profile. For 2020, the company expects operating expenses including research and development expenses, selling and marketing expenses, and others to increase modestly from the 2019 level. Also, operating expenses are expected to increase slightly (on a sequential basis) in the third quarter of 2020. Further increases in expenses due to investment in marketing campaigns for the holiday season are predicted for the fourth quarter.

Stiff competition, global demand uncertainties and supply-side challenges due to the pandemic remain concerning for iRobot. Rise in operating costs and marketing investments are other headwinds.

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#### **Last Earnings Report**

#### iRobot Beats on Q2 Earnings, Hikes View for 2020

iRobot kept its earnings streak alive in the second quarter of 2020, beating estimates by an outstanding 404.76%. Also, its sales surpassed estimates by 5.82%. Notably, the results also fared well compared with the year-ago quarter.

The company reported earnings of \$1.06 per share in the quarter, whereas the Zacks Consensus Estimate was pegged at earnings of 21 cents. Notably, the year-ago quarter's earnings were 48 cents. Healthy sales growth and improved margins aided the year-over-year rise of 120.8%.

Quarter Ending	06/2020
Report Date	Jul 21, 2020
Sales Surprise	5.82%
EPS Surprise	404.76%
Quarterly EPS	1.06
Annual EPS (TTM)	2.36

#### **Revenue Details**

The company generated revenues of \$279.9 million in the guarter, exceeding the revised projection (provided in June) of \$260-\$270 million. Also, the metric surpassed the Zacks Consensus Estimate of \$264.5 million.

On a year-over-year basis, the quarterly revenues increased 7.6%, driven by healthy demand for Roomba i7 Series and s9 Series; and Braava jet m Series. Notably, revenues derived from premium robots — products having \$500 of more as list price — expanded 43%.

Total product units of 1,044 shipped in the guarter decreased 2.8% year over year, while average selling prices increased 3.7%. For vacuum products, revenues of \$251 million reflected growth of 5.9% from the year-ago quarter. Units shipped were 930 thousand, down 0.5% from the year-ago quarter. Further, revenues from mopping products increased 26.1% to \$29 million. Units shipped were 114 thousand, down from 139 thousand recorded in the second quarter of 2019.

On a geographical basis, the company sourced 50.1% of revenues from domestic operations, the rest came from the international arena. Domestic revenues totaled \$140.2 million, reflecting a 12.6% increase from the year-ago quarter. International revenues rose 3% to \$139.7 million. International operations gained from a 43% increase in revenues in Japan, while suffering from a 14% fall in EMEA sales.

#### **Margin Profile**

In the quarter under review, iRobot's adjusted costs of revenues increased 1.4% year over year to \$140.4 million, representing 49.8% of revenues compared with 53.2% in the year-ago quarter. Adjusted gross profit in the quarter grew 14.6% year over year to \$139.5 million, while adjusted gross margin expanded 300 basis points (bps) to 49.8%. The margin improvement reflects the benefits derived from the exclusion of Roomba from Section 301 tariffs.

Research and development expenses were \$36.6 million, up 2.5% year over year. This accounted for 13.1% of revenues compared with 13.7% in the year-ago quarter. Selling and marketing expenses decreased 13% to \$49.1 million. As a percentage of revenues, it reflected 17.5% of revenues compared with 21.7% in the prior-year quarter. General and administrative expenses were \$21.9 million, up 6.1% year over year. The figure mirrored 7.8% of the total revenue base compared with 7.9% in the year-earlier quarter.

In the quarter, the company recorded adjusted operating earnings of \$40.5 million, reflecting an increase of 158.2% from the year-ago quarter. Adjusted operating margin was 14.5%, higher than 6% in the year-ago quarter.

#### **Balance Sheet and Cash Flow**

iRobot exited the second quarter with cash and cash equivalents of \$230.7 million, decreasing 7.3% from \$248.8 million recorded at the end of the last reported guarter. Total long-term liabilities were \$65.9 million, up sequentially from \$65.2 million.

In the first half of 2020, the company generated net cash of \$28.2 million from its operating activities, reflecting an increase of 32.2% from the year-ago comparable period. Capital used for purchasing property and equipment totaled \$19 million compared with \$14.7 million in the first half of 2020.

During the first six months of 2020, the company repurchased 0.7 million shares for \$25 million consideration. Notably, no shares were repurchased in the second quarter of this year.

#### Outlook

A solid customer base, spur in the e-commerce business, strengthening sell-through and low inventory level with retailers will likely benefit the company in the second half of 2020. Also, product innovations will be a key tailwind.

Being more optimistic about revenue prospects in the second half, iRobot anticipates 2020 revenues to remain flat to grow slightly from the 2019 level. The new projection reflects an improvement from the company's previous expectation of a year-over-year decline.

Also, revenue growth in the third quarter of 2020 is predicted to be more than that reported in the fourth quarter.

#### **Recent News**

On Aug 25, 2020, iRobot introduced a platform for robotic cleaners, which is iRobot Genius Home Intelligence. The company's Wi-Fi connected products including Braava jet robot mops and Roomba robot vacumm, equipped with this new platform, provide users with the benefits of personalization and better control over these cleaning products.

#### **Valuation**

iRobot's shares are up 42.7% and 14.7% in the year-to-date period and over the trailing 12-month period, respectively. Stocks in the Zacks sub-industry and the Zacks Industrial Products sector are up 17% and 2.1%, respectively in the year-to-date period. Over the past year, the Zacks sub-industry and sector are up 43.5% and 15.1%, respectively.

The S&P 500 index has moved up 6.9% year to date and 15.9% in the past year.

The stock is currently trading at 61.49x forward 12-month earnings per share, which compares to 27.97x for the Zacks sub-industry, 22.45x for the Zacks sector and 23.94x for the S&P 500 index.

Over the past five years, the stock has traded as high as 917.3x and as low as 17.23x, with a 5-year median of 29.72x. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$76 price target reflects 64.56x forward 12-month earnings per share.

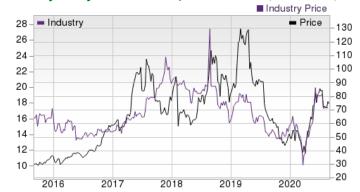
The table below shows summary valuation data for IRBT.

Valuation Multiples - IRBT						
		Stock	Sub-Industry	Sector	S&P 500	
	Current	61.49	27.97	22.45	23.94	
P/E F12M	5-Year High	917.3	27.97	22.45	23.94	
	5-Year Low	17.23	14.13	12.55	15.25	
	5-Year Median	29.72	19.3	17.5	17.6	
	Current	1.54	3.21	3.04	4.4	
P/S F12M	5-Year High	3.44	3.21	3.04	4.4	
	5-Year Low	0.71	1.24	1.52	2.53	
	5-Year Median	1.8	2.42	2.05	3.07	

As of 09/03/2020

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# Industry Analysis Zacks Industry Rank: Bottom 8% (231 out of 251)



Source: Zacks Investment Research

## **Top Peers**

Company (Ticker)	Rec R	ank
Teradyne, Inc. (TER)	Outperform	2
ABB Ltd (ABB)	Neutral	2
A. O. Smith Corporation (AOS)	Neutral	3
Koninklijke Philips N.V. (PHG)	Neutral	2
Rockwell Automation, Inc. (ROK)	Neutral	3
Sony Corporation (SNE)	Neutral	3
Barnes Group, Inc. (B)	Underperform	5
Hollysys Automation Technologies, Ltd. (HOLI)	Underperform	5

The positions listed should not be deemed a recommendation to buy, hold or sell.

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Industry Comparison Industry	y: Industrial Automation And Robotics Industry Peers								
	IRBT	X Industry	S&P 500	ABB	HOLI	TER			
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Underperform	Outperform			
Zacks Rank (Short Term)	3	-	-	2	5	2			
VGM Score	В	-	-	D	D	В			
Market Cap	2.02 B	1.74 B	23.52 B	54.79 B	618.48 M	13.60 E			
# of Analysts	5	3	14	3	2	8			
Dividend Yield	0.00%	0.24%	1.62%	2.04%	2.05%	0.49%			
Value Score	С	-	-	С	В	С			
Cash/Price	0.12	0.13	0.07	0.08	0.47	0.07			
EV/EBITDA	13.48	5.38	13.12	18.64	2.52	19.49			
PEG F1	1.89	3.17	2.97	5.09	NA	1.26			
P/B	2.96	2.78	3.20	4.36	0.63	7.80			
P/CF	16.67	16.67	12.72	14.99	5.29	22.36			
P/E F1	28.32	29.94	21.67	31.59	5.18	21.16			
P/S TTM	1.70	1.70	2.49	2.08	1.23	4.89			
Earnings Yield	3.39%	3.34%	4.40%	3.17%	19.32%	4.72%			
Debt/Equity	0.08	0.07	0.70	0.50	0.02	0.23			
Cash Flow (\$/share)	4.33	2.95	6.93	1.69	1.94	3.66			
Growth Score	В	-	-	D	F	Α			
Historical EPS Growth (3-5 Years)	17.64%	3.96%	10.41%	2.54%	3.96%	24.42%			
Projected EPS Growth (F1/F0)	-17.58%	-22.42%	-4.75%	-35.48%	50.00%	35.36%			
Current Cash Flow Growth	-24.13%	-11.13%	5.22%	-3.96%	-25.88%	9.31%			
Historical Cash Flow Growth (3-5 Years)	20.21%	3.18%	8.49%	-2.99%	0.20%	3.50%			
Current Ratio	3.45	2.45	1.35	1.19	3.59	2.87			
Debt/Capital	7.19%	7.08%	42.95%	33.15%	1.91%	18.74%			
Net Margin	8.08%	11.85%	10.25%	5.83%	15.77%	22.94%			
Return on Equity	9.55%	8.21%	14.59%	18.45%	8.21%	43.96%			
Sales/Assets	1.34	0.88	0.50	0.57	0.38	0.96			
Projected Sales Growth (F1/F0)	1.54%	0.00%	-1.42%	-10.91%	7.62%	23.98%			
Momentum Score	Α	-	-	C	A	В			
Daily Price Change	-7.82%	0.00%	-2.14%	-2.24%	3.12%	-7.29%			
1-Week Price Change	-2.29%	-0.17%	2.59%	-0.08%	-6.01%	-2.58%			
4-Week Price Change	-0.82%	-0.82%	2.25%	-2.92%	-17.41%	-9.83%			
12-Week Price Change	-3.19%	-3.19%	11.04%	23.93%	-25.59%	15.70%			
52-Week Price Change	14.71%	7.21%	2.01%	30.66%	-32.34%	46.51%			
20-Day Average Volume (Shares)	545,733	1,140	1,827,096	1,219,540	456,360	1,421,959			
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
EPS F1 Estimate 4-Week Change	7.34%	0.24%	0.00%	0.00%	-10.81%	0.00%			
EPS F1 Estimate 12-Week Change	340.00%	1.82%	3.89%	25.98%	-10.81%	25.74%			
EPS Q1 Estimate Monthly Change	5.66%	0.90%	0.00%	0.00%	-9.26%	0.00%			

Source: Zacks Investment Research

### **Zacks Style Scores**

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.



As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

#### **Disclosures**

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#### **Additional Disclosure**

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forwardlooking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

#### **Glossary of Terms and Definitions**

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a mediumterm price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This longterm price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

# of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the mostrecent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

**S&P 500 Index:** The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

#### Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every \$1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total longterm debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

Past performance is no guarantee of future results. Please see important disclosures and definitions at the end of this report.

**EV/FCF Ratio:** The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

**P/EBITDA Ratio:** The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

**P/B Ratio:** The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

**P/TB Ratio:** The price-to-tangible-book value ratio is calculated as a the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

**P/CF Ratio:** The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

**P/FCF Ratio:** The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

Earnings Yield: The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at \$35 and expected to earn \$3 per share in the current fiscal year (F1), would be 0.0857 (3/35 = 0.0857) or 8.57%. In other words, for \$1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

**Debt/Equity Ratio:** The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

Cash Flow (\$/share): Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

Current Ratio: The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

**Debt/Capital Ratio:** Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

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**Net Margin:** Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every \$1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

Return on Equity: Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every \$1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

Sales/Assets Ratio: The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated \$2.50 in sales for every \$1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

**Historical EPS Growth (3-5 Years):** This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

**Projected EPS Growth (F1/F0):** This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

**Current Cash Flow Growth:** It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

**Historical Cash Flow Growth (3-5 Years):** This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

**Projected Sales Growth (F1/F0):** This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

**EPS F1 Estimate 1-Week Change:** The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is \$1.10 now versus \$1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from \$1.00 to 90 cents, that would be a 10% downward revision.

EPS F1 Estimate 4-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

EPS F1 Estimate 12-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

EPS Q1 Estimate Monthly Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.

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