

PTC Inc. (PTC)

\$144.31 (As of 04/06/21)

Price Target (6-12 Months): **\$152.00**

Long Term: 6-12 Months

Zacks Recommendation:
Neutral

(Since: 01/22/21)

Prior Recommendation: Underperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:C

Value: D

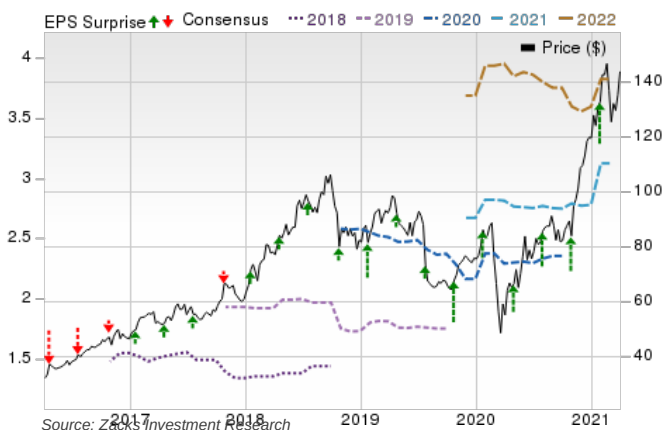
Growth: B

Momentum: B

Summary

PTC is benefitting from continued momentum in average recurring revenue (ARR) growth amid acceleration in digital transformation by enterprises. The company is witnessing robust adoption of Vuforia-Chalk, Vuforia Expert Capture solution along with ThingWorx and Windchill platforms as well as the Onshape suite. Acquisition of Arena Solutions also bodes well. Increasing spending by enterprises on emerging categories like Internet of Things (IoT) and augmented & virtual reality (AR/VR) presents significant prospects for PTC in the longer haul. Shares have outperformed the industry in the past year. Nonetheless, PTC faces stiff competition in the computer-aided design (CAD) market, which might dent the top line. Further, ARR growth is likely to be impacted in fiscal 2021 on reduced bookings' backlog at the end of fiscal 2020 due to the pandemic.

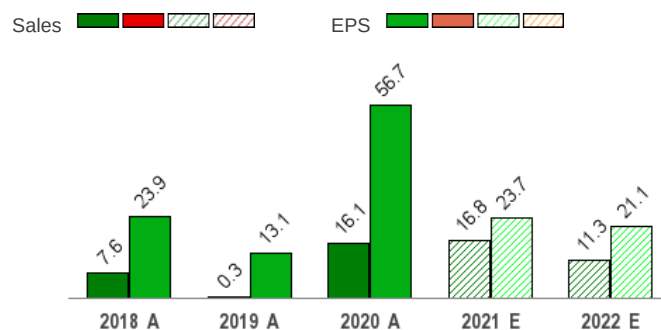
Price, Consensus & Surprise



Data Overview

52-Week High-Low	\$147.67 - \$59.33
20-Day Average Volume (Shares)	707,662
Market Cap	\$17.1 B
Year-To-Date Price Change	22.1%
Beta	1.25
Dividend / Dividend Yield	\$0.00 / 0.0%
Industry	Computer - Software
Zacks Industry Rank	Top 33% (84 out of 253)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	44.8%
Last Sales Surprise	12.0%
EPS F1 Estimate 4-Week Change	0.1%
Expected Report Date	05/05/2021
Earnings ESP	0.0%
P/E TTM	49.3
P/E F1	45.4
PEG F1	1.4
P/S TTM	11.1

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2022	467 E	474 E	469 E	513 E	1,896 E
2021	429 A	418 E	412 E	444 E	1,703 E
2020	356 A	360 A	352 A	391 A	1,458 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	\$0.93 E	\$0.94 E	\$0.94 E	\$1.08 E	\$3.85 E
2021	\$0.97 A	\$0.72 E	\$0.69 E	\$0.79 E	\$3.18 E
2020	\$0.57 A	\$0.59 A	\$0.62 A	\$0.78 A	\$2.57 A

*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and sales estimates, is as of 04/06/2021. The report's text and the analyst-provided price target are as of 04/07/2021.

Overview

Boston, MA-based PTC Inc. provides software solutions and services globally, that aid manufacturing companies to design, operate, and manage products. Founded in 1985, the company was formerly known as Parametric Technology Corporation and changed its name to PTC Inc. in January 2013.

The company offers comprehensive portfolio of software solutions comprising computer-aided design (CAD) modeling, product lifecycle management (PLM), data orchestration (IIoT), and experience creation (AR) products.

Creo is the company's flagship 3D CAD product. Creo offers design engineers with design flexibility, assembly design, surfacing, and virtual prototyping design capabilities.

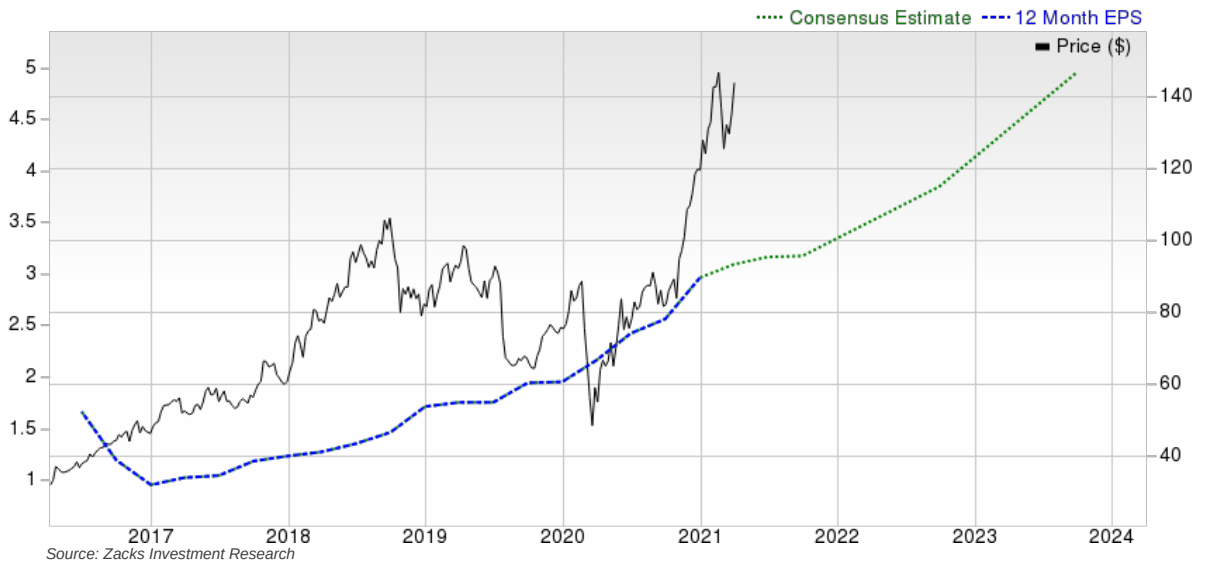
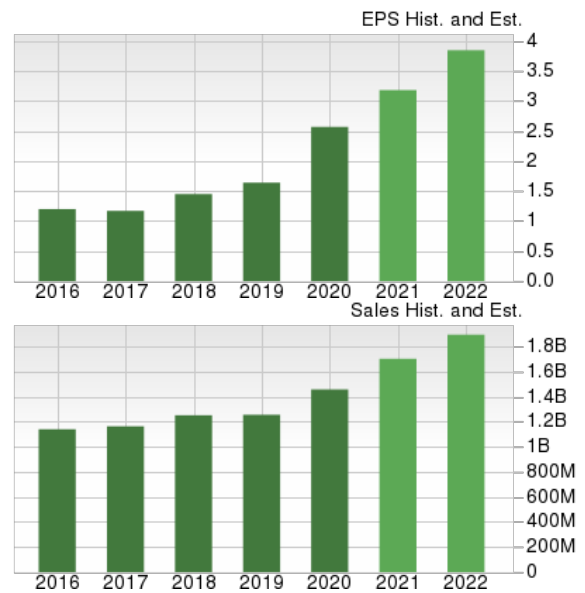
PTC's primary PLM product, Windchill software offers a unified repository for comprehensive product information. Windchill also includes AR capabilities, to aid customers develop a digital product definition and publish the illustration of the product in AR.

Meanwhile, ThingWorx product helps customers to develop and deploy IoT applications; manage connected devices; and analyze complex industrial IoT data, in a cost- and time-efficient manner.

Vuforia Studio product aids industrial enterprises to publish AR experiences superimpose vital digital information from CAD, IoT, and other related sources onto the view of the material things on which users work.

Under ASC 606, the company reported revenues of \$1.458 billion for fiscal 2020.

PTC has two operating and reportable segments: Software Products (90.1% of fiscal 2020 revenues), which includes subscription, license and associated support revenues; and Professional Services (9.9%), which includes implementation, consulting and training services.



Reasons To Buy:

- ▲ PTC is well poised to gain from strength in product portfolio. The company's solutions aid industrial enterprises to enhance operational efficiency, accelerate product and service innovation, and boost workforce productivity. Growing clout of the company's major technology platforms including, 3D modeling (CAD) offering; Creo, lifecycle management (PLM) solution; Windchill, data orchestration (IIoT) offering; ThingWorx, and experience creation (AR) product; Vuforia Studio, is expected to drive the top-line.
- ▲ Global 3D CAD software market is set to reach \$14.06 billion by 2027 at a CAGR of 5.9% between 2020 and 2027, per Verified Market Research data. Increased adoption of computer-based design in the automotive sector, and growing clout of additive production by manufacturers, are tailwinds. Solid demand for precision in design, complex prototyping and digitalization of construction is expected to drive demand for 3D-CAD offerings in the automotive, aerospace, manufacturing, healthcare and defense verticals.
- ▲ Moreover, increasing spending by enterprises on emerging categories like Internet of Things (IoT) and augmented/virtual reality (AR/VR) presents significant prospects for PTC. Per Mordor Intelligence data, global IoT market is anticipated to hit \$1386.06 billion in 2026 at a CAGR of 10.53% between 2021 and 2026. Moreover, IDC estimates AR/VR spending to witness a CAGR of 54% over 2020-2024 timeframe. This presents significant growth opportunity for semiconductor chip makers and electronics sensor developers. We believe that the company's expanding product portfolio will help it to win frequent orders and new customers from these emerging markets. Notably, Gartner places PTC in the "Leaders" quadrant of its 2020 Gartner Magic Quadrant for Industrial IoT Platforms, which reflects the company's growing clout in the IIoT vertical on robust adoption of its ThingWorx offering.
- ▲ Strategic acquisition strategy has played a pivotal part in developing the company's business in the last few years. Recently, PTC completed the acquisition of Arena Solutions, Inc for \$715 million. Arena Solutions' takeover will enable PTC in providing its customers with a comprehensive SaaS solution that encompasses CAD and PLM offerings. Arena Solutions' buyout complements PTC's earlier acquisition of Onshape. The company acquired Onshape for \$470 million in cash to enhance Creo and Windchill products with advanced SaaS capabilities. The company's buyout of TWINKLS will strengthen its industrial AR offerings. These along with Frustum (advanced patented desktop and cloud-based generative design software provider), Waypoint Labs and Reality Editor (adding more IoT and AR product development capabilities) acquisitions have enabled the company to offer new and innovative products. We anticipate PTC to pursue tuck-in acquisitions, which will further expand product portfolio in the long term.

Robust adoption driven by high demand for SaaS-based CAD, PLM and IIoT solutions, new business bookings on the back of strategic alliances with Rockwell Automation and Microsoft, are key catalysts.

Reasons To Sell:

- ▼ PTC generated a significant portion (56%) of revenues from the International market in fiscal 2020. Adverse foreign currency exchange rates are anticipated to weigh on revenue growth in the near term owing to the strengthening of the U.S. dollar compared with the Euro and other foreign currencies, which is a significant concern.
- ▼ Moreover, Europe continues to remain a major headwind for PTC. Uncertainty related to Brexit, growing data privacy regulations and overall macro-weakness in the region is anticipated to hurt top line in the near term. Notably, the company generated 37.3% of fiscal 2020 revenues (per ASC 606) from Europe.
- ▼ PTC faces stiff competition in the computer-aided design (CAD) market from Cadence Design Systems (as it recently ventured into the market with 3D Solver offering), Autodesk, ANSYS and Synopsys, to mention a few. Considering IIoT vertical, similar solutions from large established companies like Amazon, IBM, Oracle, SAP, Siemens AG, and GE are likely to affect adoption of PTC's ThingWorx IoT platform. New entrants are likely to pose a threat to the company's market share. This might compel the company resort to competitive pricing to maintain and capture further market share.
- ▼ Frequent acquisitions have escalated integration risks for PTC. We note that the frequent acquisitions have negatively impacted the company's balance sheet in the form of high level goodwill and acquired intangible assets, which accounted for approximately \$1.86 billion or 54% of the total assets as of Dec 31. Acquisitions also raise PTC's debt burden, which increases the risk profile of the business. As of Dec 31, the company's cash and cash equivalents were \$399 million, while total debt was \$988 million. Moreover, total debt to total capital is pegged at 39.8%. compared with industry's figure of 38%. A high debt to capital ratio indicates increases in the risk profile of the company. Consequently, the company is required to constantly generate adequate amount of cash flows to meet debt requirements.

Stiff competition, adverse foreign currency exchange volatility, and integration risks from buyouts, are likely to weigh on PTC's financial performance.

Last Earnings Report

PTC Surpasses Q1 Earnings and Revenue Estimates

PTC reported first-quarter fiscal 2021 non-GAAP earnings of 97 cents per share, up 70.1% on a year-over-year basis. Also, the bottom line beat the Zacks Consensus Estimate by 44.8%.

Revenues came in at \$429.1 million, up 20.5% year over year. The improvement was driven by strength across Core and Growth product groups. The top line surpassed the Zacks Consensus Estimate by 12%.

The company also announced reorganizing of the SaaS business unit that currently constitutes SaaS business of Onshape and Vuforia. The unit will now include Arena Solutions' business and will be led by Mike DiTullio. The unit now accounts for \$100 million of annualized recurring revenues (ARR) and 20% of the company's bookings.

Top Line in Detail

Recurring revenues of \$385 million increased 26.1% year over year. Perpetual license of \$8.46 million declined 5.9% from the year-ago quarter's figure due to end of perpetual license sales on Jan 1, 2019.

Revenues by License, Support and Services

License revenues (41.3% of total revenues) were \$177.2 million, up 43.5% from the year-ago quarter's figure.

Support and cloud services revenues (50.4%) of \$216.3 million increased 13.3% year over year.

Professional services revenues (8.3%) of \$35.6 million declined 14.6% year over year.

Revenues by Product Group

Revenues from **Core Product Group** — which includes computer-aided design (CAD) & Product Lifecycle Management (PLM) offerings — came in at \$309 million, up 23% year over year (up 19% at constant currency or cc).

Revenues from **Growth Product Group** (which includes IoT, AR & Onshape) totaled \$68 million, up 29% year over year (up 26% at cc).

Revenues from **Focused Solutions Group** (FSG) amounted to \$52 million, up 1% year over year (down 1% at cc).

ARR Performance

Annualized recurring revenues (ARR) were \$1.343 billion, up 16% year over year (up 12% at cc). The uptick was driven by strong performance of Core and Growth divisions along with growth in the global channel.

ARR from Core Product Group (CAD & PLM) came in at \$967 million, up 17% year over year (up 12% at cc). Growth was driven by strength in PLM and CAD solutions.

ARR from Growth Product Group (IoT, AR & Onshape) came in at \$194 million, up 29% year over year (26% at cc). Year-over-year growth can be attributed to improvement in AR as well as strength in Onshape.

ARR from FSG came in at \$182 million, up 2% year over year (unchanged at cc). The low growth rate reflects weak demand trends across verticals like retail and travel that are badly hit by COVID-19 disruption.

Operating Details

Non-GAAP gross margin expanded 410 basis points (bps) on a year-over-year basis to 82.3%.

Total operating expenses increased 5.9% year over year to \$252 million mainly due to higher sales and marketing along with general and administrative costs.

Operating income on a non-GAAP basis increased 64.5% year over year to \$153 million.

Consequently, operating margin on a non-GAAP basis expanded 970 bps on a year-over-year basis to 35.8%.

Balance Sheet & Cash Flow

As of Dec 31, cash, cash equivalents and marketable securities were \$399 million compared with the prior-quarter's figure of \$335 million.

Total debt, net of deferred issuance costs, was \$988 million as of Dec 31, 2020, down from the prior-quarter's figure of \$1 billion, as of Sep 30, 2020.

Cash provided by operating activities came in at \$114 million compared with the prior-quarter's figure of \$34 million.

Free cash flow was \$111 million compared with \$29.2 million reported in the previous quarter.

Guidance

Quarter Ending	12/2020
Report Date	Jan 27, 2021
Sales Surprise	12.00%
EPS Surprise	44.78%
Quarterly EPS	0.97
Annual EPS (TTM)	2.96

PTC anticipates near-term macroeconomic conditions to remain steady despite COVID-19 related disruptions. Management continues to expect overall macroeconomic backdrop to start improving by the second half of fiscal 2021.

Driven by strong fiscal first quarter results and acquisition of Arena Solutions, management revised its outlook for fiscal 2021.

Fiscal 2021 revenues are now projected between \$1.69 billion and \$1.73 billion compared with earlier guidance of \$1.55-\$1.6 billion.

Further, non-GAAP earnings are now expected between \$3.05 and \$3.25 compared with \$2.65 and \$2.85 per share, which indicates rise of 19-26% year over year.

ARR is expected to be \$1.47-\$1.5 billion compared with \$1.385-\$1.42 billion, which indicates rise of 16-18% year over year. ARR guidance is inclusive of 2% headwind stemming from reduced backlog at the end of fiscal 2020 owing to coronavirus-related pressure on bookings.

On organic basis, ARR growth rate is now expected in the band of 10-12% (on a constant-currency basis) compared with earlier range of 9-10%. Buyout of Arena Solutions is anticipated to contribute 400 bps to ARR growth.

Operating expenses are now anticipated to increase 16% from 10% projected earlier. This is mainly due to Arena Solutions' buyout.

Cash from operations is projected to be \$365 million, indicating an increase of 55% on a year-over-year basis. Free cash flow is forecast to be \$340 million, which suggests 60% year-over-year growth in fiscal 2021.

Further, non-GAAP operating margin is expected to be 30-31% compared with the previous range of 28-29%.

Recent News

On Mar 29, PTC added a new solution —the Vuforia Engine Area Targets —to its Vuforia augmented reality (AR) enterprise platform. The new feature will facilitate users especially industrial organizations to create immersive AR experiences for their facilities (up to 300,000 square feet) and improve area utilization.

On Jan 26, PTC announced that Fujitsu America, Inc is leveraging its Vuforia Augmented Reality (AR) and ThingWorx Industrial IoT platforms into its Smart Factory framework. The integration is aimed at facilitating quicker digital transformation for manufacturing customers.

On Jan 19, PTC concluded the buyout of Arena Solutions. The acquisition will aid PTC to strengthen SaaS-based product development capabilities and improve its competitive position in the market.

On Dec 14, PTC announced the buyout of Arena Solutions, Inc for \$715 million.

On Nov 19, PTC rolled out its latest CAD offering — Creo Ansys Simulation solution integrated with Ansys' high fidelity solvers. Creo Ansys Simulation offering will help manufactures to lower costs and time to market for new products.

On Nov 4, PTC announced that it has been recognized as a "Leader" in Gartner's latest "Magic Quadrant for Industrial IoT Platforms."

On Oct 29, PTC announced the extension of its collaboration with Rockwell Automation through 2023. Due to the expansion of the partnership, Rockwell Automation customers can avail PTC's product lifecycle management and software as a service (SaaS) product while PTC's customers can avail Rockwell Automation's virtual machinery simulation and testing software.

On Aug 14, PTC rolled out Onshape Education Suite's Enterprise Plan for K-12 affiliated schools and universities to assist students as they adapt to online learning owing to coronavirus outbreak, for no additional cost.

On Jul 29, PTC announced that the U.S. Navy has selected its Windchill product lifecycle management (PLM) Software as a Service (SaaS) offering to support its Model Based Product Support (MBPS) digital transformation initiatives, aimed at improving the Navy's operational readiness.

Valuation

PTC shares are up 71.7% in the past six-month period and 131% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 11.9% and 21.4% in the past six-month period, respectively. Over the past year, the Zacks sub-industry and the sector are up 49.5% and 67.9%, respectively.

The S&P 500 index is up 19.4% in the past six-month period and 51% in the past year.

The stock is currently trading at 9.35X forward 12-month sales compared with 8.49X for the Zacks sub-industry, 4.77X for the Zacks sector and 4.71X for the S&P 500 index.

In the past five years, the stock has traded as high as 9.96X and as low as 3X, with a five-year median of 6.03X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$152 price target reflects 9.85X forward 12-month sales.

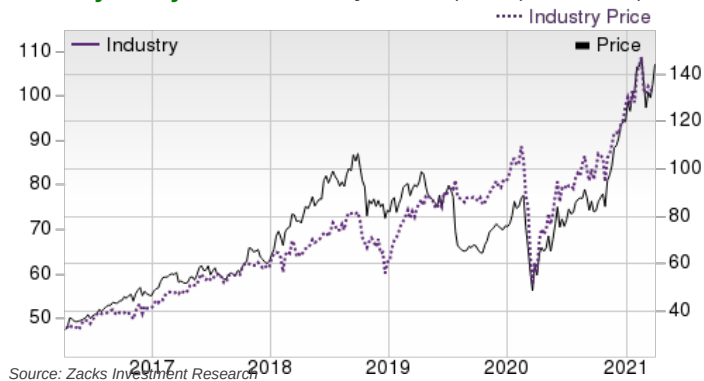
The table below shows summary valuation data for PTC

Valuation Multiples - PTC					
		Stock	Sub-Industry	Sector	S&P 500
P/S F12M	Current	9.35	8.49	4.77	4.71
	5-Year High	9.96	8.49	4.77	4.71
	5-Year Low	3	4.26	2.78	3.21
	5-Year Median	6.03	6.16	3.5	3.71
P/B TTM	Current	11.28	11.54	8.97	6.89
	5-Year High	15	12.3	9.38	6.9
	5-Year Low	4.29	4.8	4.41	3.83
	5-Year Median	7.72	8.22	5.78	4.98
EV/Sales TTM	Current	11.39	9.09	5.53	4.84
	5-Year High	11.56	9.45	5.79	4.84
	5-Year Low	3.5	3.81	3.07	2.64
	5-Year Median	7.12	6.2	3.96	3.62

As of 04/06/2021

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Top 33% (84 out of 253)



Top Peers

Company (Ticker)	Rec	Rank
Cadence Design Systems, Inc. (CDNS)	Outperform	1
Blackbaud, Inc. (BLKB)	Neutral	3
CommVault Systems, Inc. (CVLT)	Neutral	3
Nuance Communications, Inc. (NUAN)	Neutral	4
Pegasystems Inc. (PEGA)	Neutral	3
Verint Systems Inc. (VRNT)	Neutral	2
Autodesk, Inc. (ADSK)	Underperform	4
ANSYS, Inc. (ANSS)	Underperform	4

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

Industry Comparison Industry: Computer - Software				Industry Peers		
	PTC	X Industry	S&P 500	ANSS	CDNS	VRNT
Zacks Recommendation (Long Term)	Neutral	-	-	Underperform	Outperform	Neutral
Zacks Rank (Short Term)	3	-	-	4	1	2
VGM Score	C	-	-	D	F	B
Market Cap	17.05 B	3.02 B	29.96 B	31.61 B	40.71 B	3.02 B
# of Analysts	6	4	12	6	6	4
Dividend Yield	0.00%	0.00%	1.29%	0.00%	0.00%	0.00%
Value Score	D	-	-	D	F	C
Cash/Price	0.02	0.07	0.06	0.03	0.02	0.25
EV/EBITDA	52.76	26.20	16.88	50.91	49.30	17.40
PEG F1	1.39	3.08	2.38	NA	4.35	1.50
P/B	11.39	8.03	3.99	7.60	16.32	2.35
P/CF	50.12	32.59	16.85	56.46	54.27	10.58
P/E F1	44.97	39.05	22.08	53.36	48.30	21.04
P/S TTM	11.14	5.57	3.42	18.80	15.17	2.37
Earnings Yield	2.18%	2.48%	4.45%	1.87%	2.07%	4.75%
Debt/Equity	0.66	0.23	0.66	0.19	0.14	0.31
Cash Flow (\$/share)	2.88	1.33	6.78	6.35	2.64	4.43
Growth Score	B	-	-	C	D	C
Historical EPS Growth (3-5 Years)	21.94%	12.16%	9.39%	13.44%	39.63%	12.53%
Projected EPS Growth (F1/F0)	23.86%	8.09%	15.29%	1.47%	7.86%	-39.38%
Current Cash Flow Growth	79.82%	5.31%	0.44%	-1.26%	-33.74%	3.73%
Historical Cash Flow Growth (3-5 Years)	1.91%	9.07%	7.37%	8.12%	13.16%	3.20%
Current Ratio	1.31	1.70	1.39	2.36	1.86	1.10
Debt/Capital	39.79%	19.60%	41.26%	16.30%	12.21%	21.30%
Net Margin	7.75%	7.09%	10.59%	25.81%	22.01%	-0.57%
Return on Equity	16.89%	13.33%	14.86%	12.86%	25.40%	14.45%
Sales/Assets	0.44	0.55	0.51	0.34	0.68	0.40
Projected Sales Growth (F1/F0)	16.80%	6.80%	7.36%	9.70%	7.71%	-32.93%
Momentum Score	B	-	-	F	F	A
Daily Price Change	-1.14%	0.00%	0.05%	-1.20%	-1.65%	2.05%
1-Week Price Change	6.23%	1.44%	0.35%	2.59%	6.72%	0.15%
4-Week Price Change	13.14%	1.29%	5.11%	16.37%	12.69%	-3.40%
12-Week Price Change	12.30%	5.28%	8.79%	-3.98%	7.28%	-34.04%
52-Week Price Change	143.32%	60.35%	60.17%	49.56%	107.76%	21.37%
20-Day Average Volume (Shares)	707,662	126,263	2,103,543	573,956	1,781,212	962,532
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	13.22%
EPS F1 Estimate 4-Week Change	0.08%	0.00%	0.00%	0.00%	0.00%	13.22%
EPS F1 Estimate 12-Week Change	23.17%	2.62%	2.24%	-10.81%	8.61%	-45.28%
EPS Q1 Estimate Monthly Change	0.00%	0.00%	0.00%	0.00%	0.00%	45.46%

Source: Zacks Investment Research

Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we maintain a balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

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.

Value Score	D
Growth Score	B
Momentum Score	B
VGM Score	C

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

This report contains independent commentary to be used for informational purposes only. The analysts contributing to this report do not hold any shares of this stock. The analysts contributing to this report do not serve on the board of the company that issued this stock. The EPS and revenue forecasts are the Zacks Consensus estimates, unless indicated otherwise on the reports first page. Additionally, the analysts contributing to this report certify that the views expressed herein accurately reflect the analysts personal views as to the subject securities and issuers. ZIR certifies that no part of the analysts compensation was, is, or will be, directly or indirectly, related to the specific recommendation or views expressed by the analyst in the report.

Additional information on the securities mentioned in this report is available upon request. This report is based on data obtained from sources we believe to be reliable, but is not guaranteed as to accuracy and does not purport to be complete. Any opinions expressed herein are subject to change.

ZIR is not an investment advisor and the report should not be construed as advice designed to meet the particular investment needs of any investor. Prior to making any investment decision, you are advised to consult with your broker, investment advisor, or other appropriate tax or financial professional to determine the suitability of any investment. This report and others like it are published regularly and not in response to episodic market activity or events affecting the securities industry.

This report is not to be construed as an offer or the solicitation of an offer to buy or sell the securities herein mentioned. ZIR or its officers, employees or customers may have a position long or short in the securities mentioned and buy or sell the securities from time to time. ZIR is not a broker-dealer. ZIR may enter into arms-length agreements with broker-dealers to provide this research to their clients. Zacks and its staff are not involved in investment banking activities for the stock issuer covered in this report.

ZIR uses the following rating system for the securities it covers. **Outperform-** ZIR expects that the subject company will outperform the broader U.S. equities markets over the next six to twelve months. **Neutral-** ZIR expects that the company will perform in line with the broader U.S. equities markets over the next six to twelve months. **Underperform-** ZIR expects the company will underperform the broader U.S. equities markets over the next six to twelve months.

No part of this report can be reprinted, republished or transmitted electronically without the prior written authorization of ZIR.

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 forward-looking 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 medium-term 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 4-week 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 long-term 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 most recent 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.

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 long-term 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.

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 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.

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.