

## Palo Alto Networks (PANW)

**\$361.47** (As of 04/26/21)

Price Target (6-12 Months): **\$380.00**

Long Term: 6-12 Months

**Zacks Recommendation:**

**Neutral**

(Since: 04/26/21)

Prior Recommendation: Underperform

Short Term: 1-3 Months

**Zacks Rank:** (1-5)

**3-Hold**

Zacks Style Scores:

VGM:C

Value: D

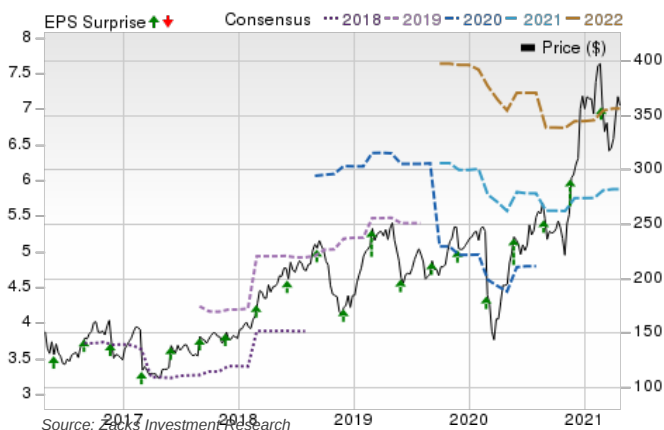
Growth: B

Momentum: B

### Summary

Palo Alto has been benefiting from continuous deal wins and increasing adoption of the company's next-generation security platforms, attributable to the rise in remote work environment and need for stronger security. Growing traction in Prisma and Cortex offerings also acted as a tailwind. Palo Alto also continued to acquire new customers and increase wallet share with existing customers. Nonetheless, the company's higher sales incentives related to Next-Generation Security products are likely to continue negatively impacting its bottom-line results. Moreover, forex headwinds and higher marketing and sales expenses are likely to continue hurting its profitability. Also, high acquisition related expenses are denting the margins. Additionally, competition from the likes of Fortinet and Cisco are perpetual woes.

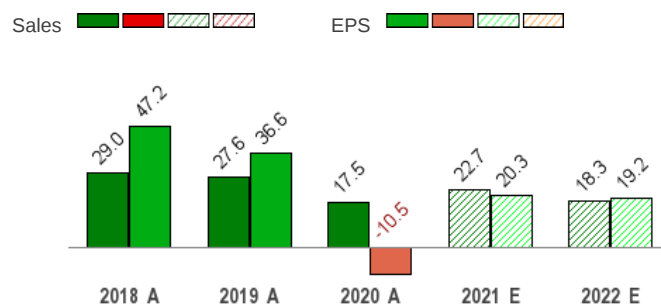
### Price, Consensus & Surprise



### Data Overview

|                                |                                 |
|--------------------------------|---------------------------------|
| 52-Week High-Low               | <b>\$403.00 - \$190.55</b>      |
| 20-Day Average Volume (Shares) | <b>895,334</b>                  |
| Market Cap                     | <b>\$35.2 B</b>                 |
| Year-To-Date Price Change      | <b>1.7%</b>                     |
| Beta                           | <b>1.39</b>                     |
| Dividend / Dividend Yield      | <b>\$0.00 / 0.0%</b>            |
| Industry                       | <b>Security</b>                 |
| Zacks Industry Rank            | <b>Top 47% (117 out of 250)</b> |

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



|                               |                   |
|-------------------------------|-------------------|
| Last EPS Surprise             | <b>7.6%</b>       |
| Last Sales Surprise           | <b>3.2%</b>       |
| EPS F1 Estimate 4-Week Change | <b>0.0%</b>       |
| Expected Report Date          | <b>05/20/2021</b> |
| Earnings ESP                  | <b>0.0%</b>       |
| P/E TTM                       | <b>62.1</b>       |
| P/E F1                        | <b>61.6</b>       |
| PEG F1                        | <b>2.6</b>        |
| P/S TTM                       | <b>9.3</b>        |

### Sales Estimates (millions of \$)

|      | Q1      | Q2      | Q3      | Q4      | Annual* |
|------|---------|---------|---------|---------|---------|
| 2022 | 1,136 E | 1,205 E | 1,251 E | 1,359 E | 4,943 E |
| 2021 | 946 A   | 1,017 A | 1,058 E | 1,160 E | 4,180 E |
| 2020 | 772 A   | 817 A   | 869 A   | 950 A   | 3,408 A |

### EPS Estimates

|      | Q1       | Q2       | Q3       | Q4       | Annual*  |
|------|----------|----------|----------|----------|----------|
| 2022 | \$1.66 E | \$1.76 E | \$1.66 E | \$1.87 E | \$7.00 E |
| 2021 | \$1.62 A | \$1.55 A | \$1.28 E | \$1.42 E | \$5.87 E |
| 2020 | \$1.05 A | \$1.19 A | \$1.17 A | \$1.48 A | \$4.88 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 04/26/2021. The report's text and the analyst-provided price target are as of 04/27/2021.

## Overview

Santa Clara, CA-based Palo Alto Networks, Inc. offers network security solutions to enterprises, service providers and government entities worldwide.

The company's next generation firewall products deliver natively integrated application, user, and content visibility and control through its operating system, hardware and software architecture. It serves the enterprise network security market, which includes Firewall, Unified Threat Management (UTM), Web Gateway, Intrusion Detection and Prevention, and Virtual Private Network technologies.

Through its products and subscription services, Palo Alto provides integrated protection against dynamic security threats while simplifying the IT security infrastructure. Its solutions incorporate application-specific integrated circuits, hardware architecture, operating system, and associated security and networking functions.

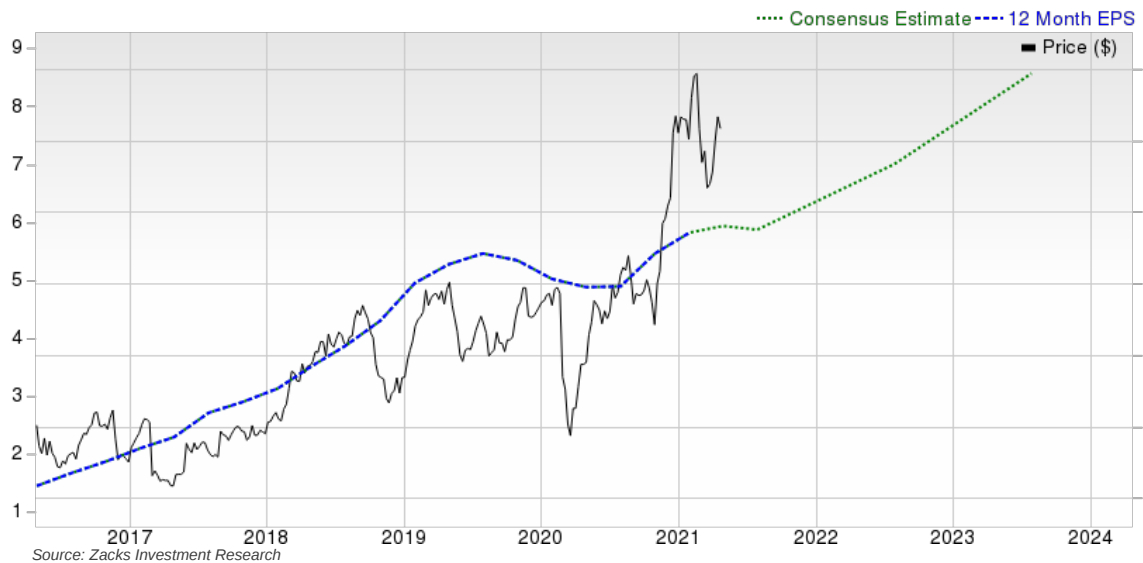
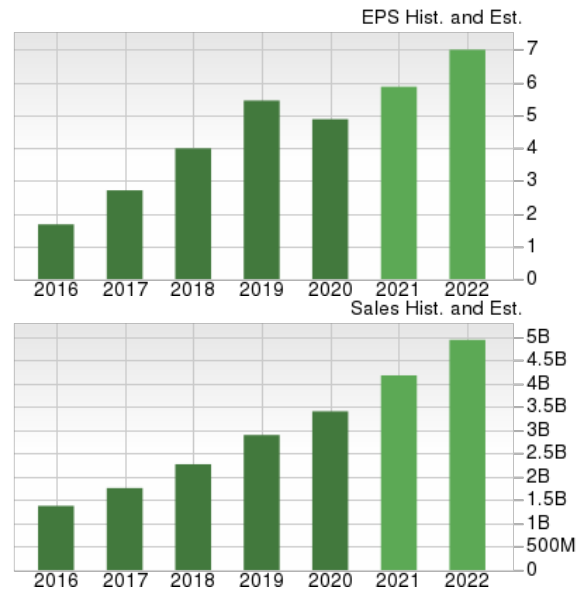
The company's network security gateways protect customer data, reduce security complexities and lower total cost of ownership. Customers can implement their security policies on traffic between internal networks and the Internet, as well as between internal and private networks shared with partners.

The company has a single operating segment. However, the company announces its revenues from products and services separately. For fiscal 2020, the company reported total revenues of \$3.41 billion, which grew 18% year over year.

Palo Alto's fiscal 2020 revenues from its products declined 3% year over year to \$1.06 billion. Revenues from subscriptions and support increased 30% to \$2.34 billion.

Further, Palo Alto operates across different geographic regions, including the Americas, Europe, the Middle East, and Africa (EMEA) and the Asia-Pacific and Japan (APAC).

The company faces competition from large companies like Cisco and Juniper, independent security vendors such as Symantec, Check Point, Fortinet, FireEye and several other small companies.



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## Reasons To Buy:

- ▲ Cyber security has become a mission-critical, high-profile requirement as financial well-being, brands and reputation of enterprises are exposed to sophisticated cyber threats. Palo Alto is growing rapidly in this space on the back of its innovative next-generation security platforms. The company's security platforms have innovative traffic classification engine that helps it in identifying network traffic by application, user and content. As a result, organizations have in-depth visibility into all traffic and applications which help them to control usage, content, risks and cyber threats at the user level. Therefore, Palo Alto's security platforms simplify security infrastructure for organizations by eliminating the need for multiple, stand-alone security appliances and software products. This reduces the total cost of ownership thereby giving the organization a competitive edge.
- ▲ Palo Alto has made strategic acquisitions to boost growth. The latest acquisition of The Crypsis Group is expected to further strengthen the company's Cortex platform with expert services for incident response and proactive assurance. The buyout of LightCyber expanded the company's Next-Generation Security Platform. Over the last few years, it also completed several important acquisitions to broaden its portfolio and global reach. Buyouts of Morta Security and Cyvera expanded its product portfolio and the customer base. Another acquired company, CirroSecure's resources and expertise has helped Palo Alto in boosting the functionality of its enterprise security platform and guard the SaaS collaboration products of Salesforce.com, Google Drive, Box and Dropbox better. Moreover, the company expanded its endpoint detection and response (EDR) capabilities with the acquisition of Secdo. Moreover, the RedLock buyout extended its leadership in cloud security. Its buyout of Demisto is helping Palo Alto incorporate AI and ML to enhance the automation of its customers' security operations. Container security company Twistlock, and serverless security firm PureSec, are expected to help Palo Alto better protect customers' journey to the cloud. Its impending acquisition of machine identity-based micro-segmentation company Aporeto will bring micro-segmentation capabilities in Prisma Cloud, further fortifying it.
- ▲ Palo Alto has made strategic partnerships to expedite growth. The company formed the NextWave Technology Partner Program under which an organization can join as strategic or integration partner. Over the last one year, it has expanded its strategic partnership with VMware to address cloud and mobile security needs of organizations. Apart from this, Palo Alto has made strategic alliance with Aruba Networks to offer security solutions tailored for mobile users. Furthermore, with another partnership with Splunk, Palo Alto is offering solutions to effectively coordinate detection, incident investigation, and response for advanced threats. Moreover, by integrating its solutions with Citrix, the company offers security solutions to cloud networking platforms. These strategic partnerships bring in customers for Palo Alto thereby boosting the top line.
- ▲ The exponential growth in the amount of data, complexity of data formats and the need to scale resources at regular intervals has led to a tremendous surge in demand for cloud computing software and applications. This trend, on the other hand, has made it necessary for companies to enforce stricter data security measures. Therefore, looking at the industry's trends, Palo Alto is currently focusing on cloud-based protection services. The company currently offers a subscription-based cloud protection service — WildFire — which helps end-customers in identifying malware on any network and takes preventive measures automatically. Moreover, Palo Alto has launched several new subscription-based services in the last few months – AutoFocus, Aperture, GlobalProtect cloud service and Logging Service – which have expanded its cloud protection capabilities.
- ▲ Palo Alto is currently focusing on selling more subscription-based services. This unique business model is helping it to generate stable revenues while expanding margins. Subscription-based service is a high gross-margin business (approximately 80%) compared with the hardware-centric model. We believe that the strategy will continue to improve the company's top line and bottom line. Palo Alto has been witnessing tremendous customer growth for its subscription-based services like WildFire and Trap. Further, the company's subscription-based services – AutoFocus, Aperture, Traps and Virtual continue to witness solid growth. We believe that continued focus on subscription-based products and services and product upgrades will boost the company's top line.
- ▲ Palo Alto has a cash healthy balance sheet. As of Jan 31, 2021, the company had cash and investments of nearly \$4 billion, which is higher than its debt (long-term including current maturities) of approximately \$1.63 billion. Since it has net cash available on its balance sheet, the existing cash can be used for pursuing strategic acquisitions and investment in growth initiatives.

Product ramp ups, deal wins, continuous growth of the network security market and expected benefits from the ongoing investments are the positives.

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## Reasons To Sell:

- ▼ We note that Palo Alto currently has a trailing 12-month Price/Book Value (P/B) ratio of 49.4. This level compares unfavorably with what the industry witnessed in the last year. Hence, valuation looks slightly stretched from a P/B perspective.
- ▼ To survive in the highly competitive cyber security market, each player must continually invest in broadening its capabilities. Over the past few years, Palo Alto has invested heavily to enhance its sales and marketing capabilities, particularly by increasing the sales force. This has negatively impacted its operating margins. Furthermore, though the company foresees these investments to garner benefit over the long run, we note that there is uncertainty about the payback period.
- ▼ Near-term prospects for Palo Alto are not promising as customer changing behavior has recently hit several other players in this space. For the past few quarters, various competitors in the cyber security space noticed that the companies have been breaking their cybersecurity investment plans into phases and implementing the same over longer periods of time, instead of making a single large investment. This makes us slightly cautious about the company's near-term performance.
- ▼ Palo Alto faces stiff competition from several big and small players in the security application market. Further, over the past few years, the demand for IT security has been on the rise driven by increasing awareness and cyber attacks, making the market more attractive for new players. Also, there are some established players in the adjacent markets like Cisco and Juniper that can cross sell security products and include security into their existing product lines, further intensifying competition in the space. Therefore, companies must deliver prompt and advanced technologies to suit customer requirements and expedite product launch to stay afloat.
- ▼ Though frequent acquisitions improve revenue opportunities, it increases integration risks. These large acquisitions deteriorate the quality of its balance sheet in the form of a high level of goodwill and intangible assets (more than 20% of fiscal 2020 total assets). Moreover, frequent acquisitions are a distraction for management and can impact organic growth, as the acquired assets will take some time to generate expected return.

Intensifying competition, an uncertain economic environment and currency headwinds remain concerns.

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## Last Earnings Report

### Palo Alto Beats Q2 Earnings Estimates

Palo Alto Networks reported second-quarter fiscal 2021 non-GAAP earnings of \$1.55 per share, which surpassed the Zacks Consensus Estimate by 7.64%. Moreover, the bottom line compared favorably with the year-ago quarter's earnings of \$1.19 per share.

The company's revenues of \$1.02 billion improved 25% year over year. The figure also beat the Zacks Consensus Estimate of \$986 million.

The top line was primarily aided by several deal wins and increased adoption of the company's next-generation security platforms on the rise in the remote-working trend and heightened need for stronger security. Growing traction in the Prisma and Cortex offerings also acted as a tailwind.

### Quarterly Details

Product revenues increased 3% year over year to \$254.7 million and contributed to 25% of the total revenues. The company's subscription and support revenues, which accounted for 75% of the total revenues, improved 34% to \$762 million.

Further, billings improved 22% year over year to \$1.2 billion. Deferred revenues jumped 30% to \$4.2 billion.

Region-wise, revenues from the Americas climbed 27% while Europe, the Middle East and Africa, and Asia Pacific revenues rose 24% and 14%, respectively.

Palo Alto continued to see penetration of the Cortex portfolio into large companies. Management noted that about 35% of Palo Alto's Global 2000 customers and 66% of its Fortune 100 customers have adopted Cortex, highlighting the importance of automation and advanced threat detection.

Notably, Palo Alto ended the second quarter with 9,038 employees, including 176 employees from Expanse.

Palo Alto's non-GAAP gross margin contracted 110 basis points (bps) on a year-over-year basis to 75.3%. However, non-GAAP operating margin improved 190 bps to 19.8%. Operational efficiencies, and lower travel and event expenses due to COVID-19, which more than offset the incremental investment in headcount, drove operating margin expansion.

Palo Alto exited the fiscal second quarter with cash, cash equivalents and short-term investments of \$4 billion compared with \$3.22 billion recorded at the end of the previous quarter.

During the quarter, it generated cash flow from operations of \$365 million and free cash flow of \$332 million.

### Guidance

For third-quarter fiscal 2021, Palo Alto anticipates year-over-year revenue growth of 21-22% to \$1.05-\$1.06 billion. Billing growth is anticipated between 20% and 22%, (\$1.22 billion-\$1.24 billion).

Non-GAAP earnings per share are estimated in the range of \$1.27-\$1.29.

Encouraged by the strong second-quarter performance, the company raised its guidance for fiscal 2021. Palo Alto now projects revenues of \$4.15-\$4.20 billion, up from the previous guidance of \$4.09-\$4.14 billion, indicating year-over-year growth of 22-23%. Billing growth is now anticipated between 19% and 20% (\$5.13 billion-\$5.18 billion).

Palo Alto forecasts fiscal 2021 adjusted earnings between \$5.80 and \$5.90 per share. Earlier, the company had projected adjusted earnings between \$5.70 and \$5.80 per share.

| Quarter Ending   | 01/2021      |
|------------------|--------------|
| Report Date      | Feb 22, 2021 |
| Sales Surprise   | 3.17%        |
| EPS Surprise     | 7.64%        |
| Quarterly EPS    | 1.55         |
| Annual EPS (TTM) | 5.82         |

## Recent News

On Apr 5, Palo Alto announced that it has been selected by DISH Network Corporation (NASDAQ: DISH) to assist with securing the United States' first cloud-native, OpenRAN-based 5G wireless network.

On Mar 17, Palo Alto announced the appointment of Dipak Golechha to the role of chief financial officer, effective immediately. Golechha will succeed Luis Visoso.

On Feb 25, Palo Alto launched a set of enhancements to its NextWave Partner Program. The NextWave 3.0 will help partners to leverage Palo Alto's technologies.

On Feb 16, Palo Alto announced that it has inked a deal to acquire cloud security company, Bridgecrew, for \$156 million. The deal is expected to close in Palo Alto's third quarter of fiscal 2021 and is not expected to affect its bottom or top lines in the near term. With this move, Palo Alto will fortify its Prisma Cloud platform with "shift left" security, which will enable it to help developers get security assessment and enforcement capabilities throughout the DevOps process.

On Jan 28, Palo Alto unveiled a comprehensive Internet of Things (IoT) security solution for healthcare aimed at improving data security and patient safety. The solution uses machine learning, crowd-sourced telemetry and MDS2 data to quickly and accurately profile devices and stop threats.

On Dec 18, Palo Alto launched a rapid response program to help SolarWinds Orion customers navigate risks from cyberattacks.

On Dec 15, Palo Alto announced that it has completed the acquisition of Expanse.

On Nov 18, Palo Alto launched industry's first 5G-native security offering, which enable service providers and enterprises to turn 5G networks into highly secure networks.

On Nov 11, Palo Alto announced that it has entered into an agreement to acquire Expanse, for a total purchase price of around \$670 million in cash and stock and around \$130 million in replacement equity awards.

On Nov 10, Palo Alto unveiled Enterprise Data Loss Prevention (DLP)—a cloud-delivered service that brings a fresh, simple and modern approach to data protection, privacy and compliance.

On Oct 29, Palo Alto announced extending its partnership with PwC to deliver managed detection and response (MDR) services to joint customers.

On Oct 13, Palo Alto introduces Prisma Cloud 2.0 which includes four new cloud security modules, enhancing its standing as the industry's only comprehensive Cloud Native Security Platform (CNSP).

Oct 7, Palo Alto unveiled its new Canada cloud location dedicated to serving local and regional customers.

## Valuation

Shares of Palo Alto have increased 1.8% in the YTD period while gained 86.7% over the trailing 12-month period. Stocks in the Zacks sub-industry have increased 3.7% while the Zacks Computer & Technology sector gained 14.1%, in the YTD period. Over the past year, the Zacks sub-industry and the sector have gained 54.1% and 70.2%, respectively.

The S&P 500 Index has gained 12.2% YTD and 49.1% in the past year.

The stock is currently trading at 7.41X forward 12-month sales, which compares to 9.10X for the Zacks sub-industry, 5.04X for the Zacks sector and 4.81X for the S&P 500 index.

Over the past five years, the stock has traded as high as 8.63X and as low as 3.51X, with a 5-year median of 6.22X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$380 price target reflects 7.78X forward 12-month sales.

The table below shows summary valuation data for PANW

| Valuation Multiples - PANW |               |       |              |        |         |
|----------------------------|---------------|-------|--------------|--------|---------|
|                            |               | Stock | Sub-Industry | Sector | S&P 500 |
| P/S F12M                   | Current       | 7.41  | 9.10         | 5.04   | 4.81    |
|                            | 5-Year High   | 8.63  | 9.10         | 5.04   | 4.81    |
|                            | 5-Year Low    | 3.51  | 5.21         | 2.80   | 3.21    |
|                            | 5-Year Median | 6.22  | 6.44         | 3.50   | 3.71    |
| P/B TTM                    | Current       | 33.89 | 14.90        | 9.46   | 7.11    |
|                            | 5-Year High   | 47.42 | 15.23        | 9.48   | 7.11    |
|                            | 5-Year Low    | 8.22  | 4.67         | 4.42   | 3.83    |
|                            | 5-Year Median | 17.11 | 8.07         | 5.82   | 4.99    |
| EV/Sales TTM               | Current       | 8.45  | 9.57         | 5.82   | 4.99    |
|                            | 5-Year High   | 10.82 | 9.57         | 5.82   | 4.99    |
|                            | 5-Year Low    | 3.23  | 4.59         | 3.08   | 2.63    |
|                            | 5-Year Median | 6.85  | 6.61         | 3.97   | 3.61    |

As of 04/26/2021

Source: Zacks Investment Research

## Industry Analysis Zacks Industry Rank: Top 47% (117 out of 250)



## Top Peers

| Company (Ticker)                              | Rec     | Rank |
|-----------------------------------------------|---------|------|
| Check Point Software Technologies Ltd. (CHKP) | Neutral | 3    |
| Cisco Systems, Inc. (CSCO)                    | Neutral | 2    |
| CyberArk Software Ltd. (CYBR)                 | Neutral | 3    |
| FireEye, Inc. (FEYE)                          | Neutral | 3    |
| Fortinet, Inc. (FTNT)                         | Neutral | 3    |
| Juniper Networks, Inc. (JNPR)                 | Neutral | 3    |
| Qualys, Inc. (QLYS)                           | Neutral | 3    |
| Zix Corporation (ZIXI)                        | Neutral | 3    |

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

| Industry Comparison Industry: Security  |         |            |           | Industry Peers |           |         |
|-----------------------------------------|---------|------------|-----------|----------------|-----------|---------|
|                                         | PANW    | X Industry | S&P 500   | CHKP           | FEYE      | FTNT    |
| Zacks Recommendation (Long Term)        | Neutral | -          | -         | Neutral        | Neutral   | Neutral |
| Zacks Rank (Short Term)                 | 3       | -          | -         | 3              | 3         | 3       |
| VGM Score                               | C       | -          | -         | B              | C         | C       |
| Market Cap                              | 35.15 B | 6.01 B     | 30.22 B   | 16.10 B        | 4.99 B    | 33.27 B |
| # of Analysts                           | 17      | 8          | 12        | 12             | 8         | 13      |
| Dividend Yield                          | 0.00%   | 0.00%      | 1.26%     | 0.00%          | 0.00%     | 0.00%   |
| Value Score                             | D       | -          | -         | C              | D         | D       |
| Cash/Price                              | 0.09    | 0.10       | 0.05      | 0.10           | 0.27      | 0.06    |
| EV/EBITDA                               | 77.71   | 35.31      | 16.96     | 14.30          | -105.24   | 41.96   |
| PEG F1                                  | 2.60    | 2.59       | 2.38      | 2.39           | 4.21      | 3.88    |
| P/B                                     | 33.89   | 11.06      | 4.13      | 4.64           | 6.49      | 38.67   |
| P/CF                                    | 76.35   | 54.56      | 17.22     | 17.90          | 399.14    | 53.65   |
| P/E F1                                  | 61.01   | 55.63      | 22.45     | 17.54          | 58.26     | 55.30   |
| P/S TTM                                 | 9.29    | 7.96       | 3.40      | 7.72           | 5.30      | 12.84   |
| Earnings Yield                          | 1.62%   | 1.78%      | 4.40%     | 5.70%          | 1.72%     | 1.81%   |
| Debt/Equity                             | 1.57    | 1.01       | 0.66      | 0.00           | 1.31      | 0.00    |
| Cash Flow (\$/share)                    | 4.73    | 1.46       | 6.78      | 6.56           | 0.05      | 3.80    |
| Growth Score                            | B       | -          | -         | C              | A         | B       |
| Historical EPS Growth (3-5 Years)       | NA%     | 18.44%     | 9.70%     | 9.23%          | NA        | 123.49% |
| Projected EPS Growth (F1/F0)            | 20.34%  | -5.52%     | 16.71%    | -1.33%         | 15.73%    | 10.06%  |
| Current Cash Flow Growth                | -6.93%  | 4.02%      | 0.72%     | 4.02%          | -131.25%  | 23.85%  |
| Historical Cash Flow Growth (3-5 Years) | 52.55%  | 24.17%     | 7.37%     | 3.98%          | 15.25%    | 57.79%  |
| Current Ratio                           | 0.98    | 1.68       | 1.38      | 1.48           | 2.07      | 1.50    |
| Debt/Capital                            | 61.10%  | 43.70%     | 41.19%    | 0.00%          | 45.87%    | 0.00%   |
| Net Margin                              | -9.73%  | -1.24%     | 11.07%    | 41.00%         | -22.04%   | 18.76%  |
| Return on Equity                        | -9.49%  | 3.38%      | 15.32%    | 25.61%         | -12.47%   | 59.91%  |
| Sales/Assets                            | 0.45    | 0.45       | 0.50      | 0.37           | 0.33      | 0.73    |
| Projected Sales Growth (F1/F0)          | 22.64%  | 12.83%     | 7.53%     | 3.25%          | 6.91%     | 17.80%  |
| Momentum Score                          | B       | -          | -         | A              | D         | B       |
| Daily Price Change                      | 0.85%   | 3.06%      | 0.06%     | -2.04%         | 3.06%     | 1.06%   |
| 1-Week Price Change                     | -2.24%  | -1.81%     | 0.47%     | 0.82%          | -0.88%    | -2.06%  |
| 4-Week Price Change                     | 12.88%  | 12.88%     | 4.37%     | 1.22%          | 7.62%     | 11.01%  |
| 12-Week Price Change                    | 0.03%   | -3.20%     | 15.10%    | -11.59%        | -3.20%    | 37.41%  |
| 52-Week Price Change                    | 83.60%  | 59.74%     | 51.64%    | 8.58%          | 81.42%    | 93.01%  |
| 20-Day Average Volume (Shares)          | 903,554 | 477,544    | 1,756,496 | 1,093,018      | 3,241,952 | 912,805 |
| EPS F1 Estimate 1-Week Change           | 0.00%   | 0.00%      | 0.00%     | 0.00%          | 0.00%     | 0.00%   |
| EPS F1 Estimate 4-Week Change           | 0.00%   | 0.00%      | 0.15%     | 0.00%          | 0.00%     | 0.00%   |
| EPS F1 Estimate 12-Week Change          | -12.43% | -14.54%    | 2.11%     | -3.43%         | -85.35%   | 4.65%   |
| EPS Q1 Estimate Monthly Change          | 0.00%   | 0.00%      | 0.02%     | 0.00%          | 0.00%     | 0.00%   |

Source: Zacks Investment Research

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## 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    | <b>D</b> |
| Growth Score   | <b>B</b> |
| Momentum Score | <b>B</b> |
| VGM Score      | <b>C</b> |

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.

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## Disclosures

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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.

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**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.

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**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.