

ANSYS Inc.(ANSS)

\$285.64 (As of 06/17/20)

Price Target (6-12 Months): **\$301.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 09/08/19)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:F

Value: F

Growth: D

Momentum: D

Summary

ANSYS is expected to benefit from robust adoption of its engineering simulation software and services. Rise in demand for simulation in repair, maintenance and other overhaul projects is strengthening ANSYS' prospects. Increasing investments by means of acquisitions across autonomous vehicles, connected solutions and 5G domains bode well. New deal wins in high-tech vertical across the Asia Pacific hold promise. Growing clout of cost-effective 3D printing solutions and additive manufacturing solutions across automotive sector is a key catalyst. However, negative business impacts across China owing to the COVID-19 outbreak are likely to dampen revenue growth. Markedly, the company has trimmed 2020 view. Reduction in multi-year lease contracts is another headwind. Notably, shares of ANSYS have underperformed the industry on a year-to-date basis.

Data Overview

52 Week High-Low	\$299.06 - \$186.81
20 Day Average Volume (sh)	471,757
Market Cap	\$24.4 B
YTD Price Change	11.0%
Beta	1.21
Dividend / Div Yld	\$0.00 / 0.0%
Industry	Computer - Software
Zacks Industry Rank	Bottom 35% (164 out of 253)

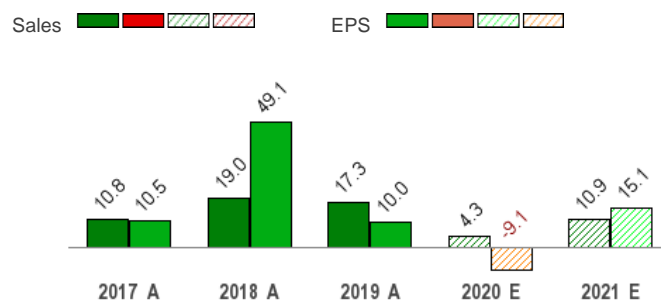
Last EPS Surprise	6.4%
Last Sales Surprise	0.7%
EPS F1 Est- 4 week change	0.0%
Expected Report Date	08/03/2020
Earnings ESP	0.0%

P/E TTM	46.8
P/E F1	47.8
PEG F1	NA
P/S TTM	16.3

Price, Consensus & Surprise



Sales and EPS Growth Rates (Y/Y %)



Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	352 E	409 E	414 E	604 E	1,767 E
2020	309 A	354 E	373 E	555 E	1,594 E
2019	320 A	371 A	346 A	492 A	1,528 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$1.19 E	\$1.53 E	\$1.59 E	\$2.70 E	\$6.88 E
2020	\$0.83 A	\$1.16 E	\$1.42 E	\$2.55 E	\$5.98 E
2019	\$1.29 A	\$1.61 A	\$1.42 A	\$2.24 A	\$6.58 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 06/17/2020. The reports text is as of 06/18/2020.

Overview

Canonsburg, PA-based ANSYS Inc. develops and globally markets engineering simulation software and services widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia.

ANSYS Workbench, simulation platform is the company's key product. It also provides structural analysis product suite (Explicit Dynamics, Composites), simulation software solutions for Fluids, Electronics, Semiconductors, and Multiphysics.

AIM is a single-window application which integrates structural, fluids and electromagnetics simulation as well as includes all aspects of the simulation workflow. The company's SCADE product suite is a comprehensive solution for embedded software simulation, code production and automated certification.

ANSYS also provides simulation software for 3D modelling, Systems and academics.

Notably, ANSYS Cloud combines high-performance computing (HPC) infrastructure and Microsoft Azure platform with ANSYS software. ANSYS 2019 R1 enables engineers in designing more pervasive simulation solutions across multiple industries.

ANSYS unveiled CES EduPack 2019 with an aim to aid educators in teaching fundamental topics.

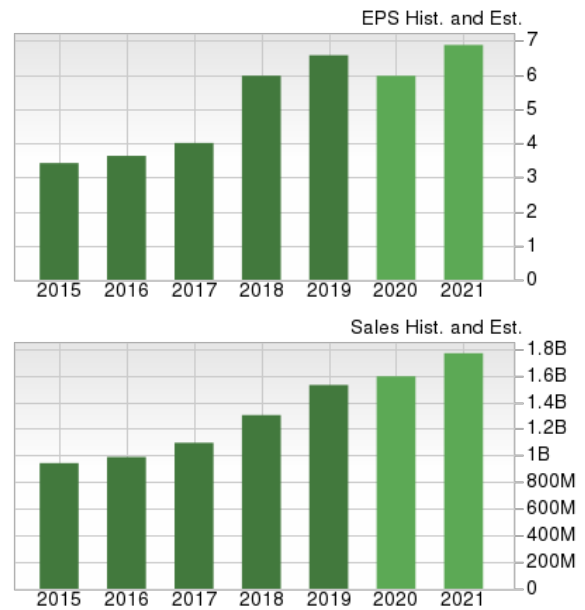
In 2019, ANSYS reported revenues of \$1.516 billion.

The company generates revenues from two sources: Software licenses (46.2% of 2019 revenues) and Maintenance and service (53.8%).

The company derived 45.3% of its revenues from Americas, while the remaining 54.7% came from its foreign operations in 2019.

Direct and indirect revenues contributed 76% and 23%, respectively, to total revenues in 2019.

ANSYS's peers in computer-aided design (CAD) market include Cadence Design Systems, Inc., Autodesk, Inc. and PTC Inc. and Synopsys, Inc.



Reasons To Buy:

- ▲ ANSYS is a dominant name in the high-end design simulation software market. The company's software solutions are used by most of the well known manufacturing companies. We note that virtual prototyping instead of physical prototyping helps these companies save considerable amount of money. We also note that its robust product portfolio and cross-domain offering will continue to drive customer base going ahead. We also note that it has a diversified customer base, which is evident from the fact that no single customer accounted for more than 5% of revenues in the last three years. Markedly, as of Mar 31, 2020, total deferred revenues and backlog came in at \$835 million, reflecting an increase of 24% on a year-over-year basis.
- ▲ We believe that ANSYS has significant growth opportunity from the rising complexity in product design due to rapid adoption of Internet of Things (IoT) in the manufacturing industry. Moreover, growing demand for energy efficient products is also a key catalyst. These are gradually expanding the company's total addressable market (TAM). We note that ANSYS's robust product portfolio is capable in addressing these needs. The company offers simulation solutions for developing next-gen 5G product designs, autonomous vehicle, thinner and more reliable mobile and IoT products as well as high-performance chips for advanced driver assistance systems (ADAS). Also, strength in ANSYS Cloud, which combines high-performance computing (HPC) infrastructure and Microsoft Azure platform with ANSYS software, holds promise. It is anticipated to enhance the company's go-to-market strategy. We believe that the new features in the product are a game changer for ANSYS in the simulation software market.
- ▲ The company's collaborations with advanced technology suppliers, hardware vendors, specialized application developers, and CAD, ECAD and PLM providers is a key catalyst in our view. ANSYS' partnership with CAD vendors – Autodesk, PTC and Siemens – enables data transfer among the CAD systems and the company's products ANSYS-Spatial relationship helps in building the geometry modelling software solutions. The company has also teamed up with BMW Group, which will utilize the company's simulation tools to design robust AV technologies. It is also collaborating with Airbus Defence and Space to develop a new solution, which facilitates AI-driven, secure flight controls to design robust autonomous drone flight control solution by 2030. ANSYS partners Amazon Web Services (AWS) in the cloud computing market. We believe that the strong partner network will help the company win customers more frequently, which will eventually drive top-line growth.
- ▲ Aggressive acquisition strategy has played a pivotal part in developing the company's business in the last few years. ANSYS has concluded acquisition of Dynardo, engaged in providing simulation-based process integration and design optimization (PIDO) technology. The buyout is expected to aid ANSYS deliver comprehensive suite of PIDO-based robust design solutions. The company has also acquired Livermore Software Technology Corporation (LSTC), in a bid to strengthen its explicit dynamics suite and finite element analysis capabilities. These along with Granta Design, SpaceClaim Corp (3D modelling technology provider), Reaction Design (chemistry simulation software provider) and Evolutionary Engineering (cloud-based composite analysis and optimization technology provider) acquisitions have enabled the company to offer new and innovative products. We anticipate ANSYS to pursue tuck-in acquisitions, which will further expand product portfolio in the long term.
- ▲ Management execution has been good in recent times. As of Mar 31, 2020, cash and short-term investments of \$718 million (the United States accounted for 60%). As of Mar 31, 2020, the company has an unsecured term loan with an outstanding principal balance of \$425 million. Notably, the debt agreement currently requires no principal payments through the next 12 months. This provides them the flexibility required to pursue any growth strategy, whether by way of acquisitions or otherwise. Moreover, total debt to total capital of 13.9% is lower than industry's figure of 42.9%. Further, times interest earned is 66.1X, compared with the industry's figure of 17.6X.
- ▲ We believe efforts to reward shareholders through share buybacks deserve a special mention. In the first quarter, the company repurchased 0.7 million shares in first quarter at an average price of \$233.48 per share. As of Mar 31, 2020, the company had 2.8 million shares remaining under the share buyback program. Also, cash from operations in the first quarter was \$147.4 million compared with \$139.5 million in the prior quarter. The strong cash flows help ANSYS to continue shareholder friendly initiatives of share repurchase. Notably, lower number of outstanding shares favors the bottom line. The company's ability to generate solid cash flow is also expected to help it sustain share buybacks, at least in the near term.

Dominant player in the high-end simulation software market, new features of products addressing IoT needs, numerous collaborations & acquisitions expanding product line, favor growth prospects.

Reasons To Sell:

- ▼ ANSYS generates a significant portion (56%) of revenues from the International market in 2019. In 2019, fluctuations in the exchange rates of foreign currencies against the U.S. Dollar negatively impacted revenues by \$24.2 million. Adverse foreign currency exchange rates are expected to impede 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 ANSYS. The company has taken steps to improve sales execution by changing senior sales leadership. The company is focusing on sharpening its go-to-market strategy. However, uncertainty related to Brexit and overall macro-weakness in the region will continue to hurt top-line growth in the near term.
- ▼ ANSYS 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, PTC and Synopsys, to mention a few. 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 ANSYS. Moreover, we also note that the frequent acquisitions negatively impact the company's balance sheet in the form of high level of goodwill and intangible assets, which totaled approximately \$2.87 billion or 63.1% of total assets as of Mar 31, 2020.
- ▼ Moreover, the company is trading at premium in terms of Price/Earnings (P/E). ANSYS currently has a trailing 12-month P/E ratio of 57.47X. This level compares unfavorably with what the industry witnessed in the last year. Additionally, the ratio is higher than the average level of 44.88X and is near the high end of the valuation range in this period. Consequently, the valuation looks slightly stretched from P/E perspective.

Declining perpetual up front revenues, uncertainty over Brexit adverse foreign currency exchange volatility, and integration risks from buyouts, are likely to weigh on ANSYS' financial performance.

Last Earnings Report

ANSYS Q1 Earnings Top Estimates, Coronavirus Dims '20 View

ANSYS reported first-quarter 2020 non-GAAP earnings of 83 cents per share, which beat the Zacks Consensus Estimate by 6.4%. The bottom line declined 35.7% year over year.

Non-GAAP revenues of \$308.9 million declined 3.4% (down 2.6% at constant currency or cc) from the year-ago quarter. Decline in multi-year lease contracts weighed on the top line.

Negative business impacts across China owing to COVID-19 outbreak and trade restrictions affected the first quarter performance.

As of Mar 31, 2020, total deferred revenues and backlog came in at \$835 million, reflecting an increase of 24% on a year-over-year basis.

Top-Line Details

Total revenues came in nearly \$305 million, down 3.8% year over year. Software licenses revenues (28.8% of total revenues) were \$87.8 million, down 28.6% year over year. Maintenance and Service revenues (71.2% of total revenues) came in at \$217.2 million, up 11.9% year over year.

Lease licenses revenues (14.5% of non-GAAP revenues) declined 35% at cc to \$44.9 million due to an anticipated and substantial reduction in multi-year lease contracts. Perpetual licenses revenues (13.9%) fell 19.7% year over year at cc to \$43 million.

Maintenance revenues and Service revenues improved 12.2% and 33%, year over year, at cc, to \$204.3 million and \$16.7 million, contributing 66.1% and 5.4% to non-GAAP revenues, respectively. Service revenue growth reflected broader adoption of the company's simulation tools and benefits from acquisitions.

Direct and indirect channels contributed 73% and 27%, respectively, to non-GAAP revenues. ACV remained flat year over year on cc basis.

On a geographic basis, revenues from Americas, EMEA (comprising Germany, the United Kingdom and other EMEA) and the Asia-Pacific (Japan and Other Asia-Pacific) accounted for 43.1%, 29.2% and 27.7% of non-GAAP revenues, respectively.

Notably, at cc, revenues from Americas declined 9.7%, while revenues from EMEA and the Asia-Pacific improved 1.1% and 6.2% year over year, respectively.

New deal wins in high-tech and automotive verticals across the Asia-Pacific aided growth. Strength in automotive sector with growing clout of cost-effective 3D printing solutions fueling demand for additive manufacturing solutions, favored growth in the EMEA region. Meanwhile, performance across Americas was due to anticipated reduction in multi-year lease contracts.

Operating Details

Non-GAAP gross margin contracted 310 basis points (bps) on a year-over-year basis to 88%, owing to lower revenue base.

Selling, general & administrative expenses as a percentage of total revenues expanded 740 bps to 42.8%. Research & development expenses as a percentage of revenues expanded 590 bps year over year to 28.2%.

Non-GAAP operating margin came in at 29.3% compared with 42.9% reported in the year-ago quarter on account of decline in gross margin and higher expenses.

Balance Sheet & Cash Flow

As of Mar 31, 2020, cash and short-term investments of \$718 million (the United States comprised 60%) compared with \$872.4 million (the United States comprised 72%) as of Dec 31, 2019.

As of Mar 31, 2020, the company has an unsecured term loan with an outstanding principal balance of \$425 million. Notably, the debt agreement currently requires no principal payments through the next 12 months.

The company generated cash from operations of \$147.4 million compared with \$139.5 million in the prior quarter.

Further, the company repurchased 0.7 million shares in first quarter at an average price of \$233.48 per share. As of Mar 31, 2020, the company had 2.8 million shares remaining under the share buyback program.

Guidance

ANSYS expects the coronavirus outbreak to delay ACV and related revenues to the second half of the year. Moreover, trade restrictions imposed on certain entities that were put into effect in 2019 are expected to persist in 2020.

ANSYS expects non-GAAP earnings in the range of \$1.01-\$1.33 per share for second-quarter 2020.

Non-GAAP revenues are anticipated between \$335 million and \$375 million.

Management projects non-GAAP operating margin in the range of 33.5-39%.

For 2020, ANSYS has trimmed guidance. The company now expects non-GAAP revenues of \$1.555-\$1.63 billion compared with the prior range of \$1.64-\$1.70 billion.

Quarter Ending 03/2020

Report Date	May 06, 2020
Sales Surprise	0.68%
EPS Surprise	6.41%
Quarterly EPS	0.83
Annual EPS (TTM)	6.10

Non-GAAP earnings are now envisioned in the range of \$5.61-\$6.23 per share (mid-point of \$5.92) compared with the prior range of \$6.19-\$6.71.

ACV is now anticipated between \$1.5 billion and \$1.575 billion compared with the prior range of \$1.605-\$1.650 billion.

Non-GAAP operating margin is now expected in the range of 40-42%, compared with the earlier guided range of 42-43%.

The company now anticipates operating cash flow for 2020 in the range of \$425-\$470 million compared with the previous range of \$500-\$530 million.

Recent News

On Jun 11, Ansys announced partnership with Electro Magnetic Applications, Inc. (EMA), in a bid to develop design-to-validation workflow, designed to certify cable harness models used in automobiles and aircraft.

On May 19, ANSYS announced that it is joining forces with Microsoft, Dell and Lendlease to accelerate and simplify the development and implementation of digital twin technologies across multiple industries.

On May 6, ANSYS announced that it has attained certification for its RedHawk system-on-chip (SoC) power noise signoff platform for all Taiwan Semiconductor Manufacturing Company or TSMC's advanced process nodes technologies.

On Mar 16, ANSYS announced that Physical Optics Corporation (POC) is utilizing its simulation software solutions to design avionics for U.S. military aircraft.

On Jan 28, ANSYS released ANSYS 2020 R1, which will enable companies to improve product development with ANSYS Minerva, run complex simulations with streamlined workflows with ANSYS Fluent and optimize electromagnetic design processes with ANSYS HFSS.

On Jan 7, ANSYS announced collaboration with BlackBerry to minimize risk for autonomous and connected vehicles. Per the terms of the deal, ANSYS SCADE's embedded software development architecture will be integrated with BlackBerry's QNX Neutrino real-time operating system (RTOS).

Valuation

ANSYS' shares are up 11% in the year-to-date period and 40% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 16.8% and 9.1% in the year-to-date period, respectively. Over the past year, the Zacks sub-industry and sector are up 27.8% and 22.6%, respectively.

The S&P 500 index is down 3% in the year-to-date period but up 6.8% in the past year.

The stock is currently trading at 44.67X forward 12-month earnings, which compares to 31.03X for the Zacks sub-industry, 25.33X for the Zacks sector and 22.42X for the S&P 500 index.

Over the past five years, the stock has traded as high as 56.16X and as low as 23.39X, with a 5-year median of 34.42X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$301 price target reflects 47.07X forward 12-month earnings.

The table below shows summary valuation data for ANSS

Valuation Multiples - ANSS					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	44.67	31.03	25.33	22.42
	5-Year High	56.16	31.03	25.33	22.42
	5-Year Low	23.39	18.62	16.72	15.23
	5-Year Median	34.42	24.99	19.28	17.49
P/S F12M	Current	14.6	7.69	3.86	3.5
	5-Year High	14.91	7.69	3.86	3.5
	5-Year Low	6.87	3.88	2.32	2.53
	5-Year Median	9.88	5.57	3.11	3.02
EV/Sales TTM	Current	16.2	7.91	4.37	3.05
	5-Year High	16.49	8.11	4.43	3.46
	5-Year Low	6.65	3.19	2.55	2.13
	5-Year Median	10.02	5.78	3.61	2.83

As of 06/17/2020

Industry Analysis Zacks Industry Rank: Bottom 35% (164 out of 253)



Top Peers

Company (Ticker)	Rec	Rank
Autodesk, Inc. (ADSK)	Neutral	3
Aspen Technology, Inc. (AZPN)	Neutral	4
Cadence Design Systems, Inc. (CDNS)	Neutral	3
CommVault Systems, Inc. (CVLT)	Neutral	4
Open Text Corporation (OTEX)	Neutral	3
Pegasystems Inc. (PEGA)	Neutral	3
PTC Inc. (PTC)	Neutral	2
Synopsys, Inc. (SNPS)	Neutral	3

Industry Comparison Industry: Computer - Software				Industry Peers		
	ANSS	X Industry	S&P 500	ADSK	CDNS	PTC
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	3	2
VGM Score	F	-	-	C	C	B
Market Cap	24.45 B	1.77 B	21.90 B	51.96 B	26.08 B	9.16 B
# of Analysts	6	4	14	10	6	8
Dividend Yield	0.00%	0.00%	1.92%	0.00%	0.00%	0.00%
Value Score	F	-	-	D	D	C
Cash/Price	0.03	0.09	0.06	0.03	0.04	0.10
EV/EBITDA	40.10	20.92	12.65	111.69	40.98	68.13
PEG Ratio	NA	2.70	2.98	1.57	3.04	1.06
Price/Book (P/B)	7.45	5.26	3.05	NA	12.08	7.18
Price/Cash Flow (P/CF)	43.55	23.41	11.68	112.84	23.41	49.04
P/E (F1)	48.31	32.90	21.53	61.99	37.86	34.52
Price/Sales (P/S)	16.26	4.94	2.31	15.17	10.97	6.67
Earnings Yield	2.09%	2.84%	4.36%	1.61%	2.64%	2.89%
Debt/Equity	0.16	0.15	0.77	-14.65	0.16	1.04
Cash Flow (\$/share)	6.56	1.18	7.01	2.10	3.98	1.61
Growth Score	D	-	-	A	B	B
Hist. EPS Growth (3-5 yrs)	14.49%	9.72%	10.87%	NA	27.77%	-2.79%
Proj. EPS Growth (F1/F0)	-9.17%	-3.27%	-10.58%	37.06%	11.74%	39.87%
Curr. Cash Flow Growth	8.84%	8.40%	5.46%	280.74%	138.95%	-3.70%
Hist. Cash Flow Growth (3-5 yrs)	7.79%	8.71%	8.55%	8.91%	24.55%	-9.76%
Current Ratio	2.40	1.54	1.29	0.79	1.38	1.13
Debt/Capital	13.88%	21.07%	45.14%	NA	13.82%	50.87%
Net Margin	27.34%	7.18%	10.53%	8.91%	41.74%	4.67%
Return on Equity	13.73%	11.82%	16.06%	-230.16%	55.35%	15.35%
Sales/Assets	0.37	0.63	0.55	0.63	0.77	0.44
Proj. Sales Growth (F1/F0)	4.28%	0.72%	-2.64%	14.23%	9.40%	8.39%
Momentum Score	D	-	-	F	B	C
Daily Price Chg	1.08%	0.00%	-0.67%	-1.61%	1.14%	-0.50%
1 Week Price Chg	-6.51%	-2.83%	-7.25%	-4.60%	-2.12%	-10.25%
4 Week Price Chg	4.93%	7.61%	5.95%	20.55%	5.65%	12.41%
12 Week Price Chg	34.54%	30.00%	23.90%	58.04%	51.70%	34.71%
52 Week Price Chg	39.99%	11.15%	-4.54%	43.11%	30.28%	-9.99%
20 Day Average Volume	471,757	126,965	2,597,851	2,009,769	1,803,430	688,334
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	0.07%	0.00%	0.00%
(F1) EPS Est 4 week change	0.00%	0.00%	0.00%	-16.94%	0.00%	-1.20%
(F1) EPS Est 12 week change	-8.66%	-8.80%	-14.52%	-20.84%	6.62%	4.85%
(Q1) EPS Est Mthly Chg	0.00%	0.00%	0.00%	-17.07%	0.00%	0.65%

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 have an excellent 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	F
Growth Score	D
Momentum Score	D
VGM Score	F

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.