

## NVIDIA Corporation (NVDA)

**\$268.40** (As of 04/06/20)

Price Target (6-12 Months): **\$282.00**

Long Term: 6-12 Months

**Zacks Recommendation:**

**Neutral**

(Since: 02/12/20)

Prior Recommendation: Outperform

Short Term: 1-3 Months

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

**3-Hold**

Zacks Style Scores:

VGM:C

Value: F

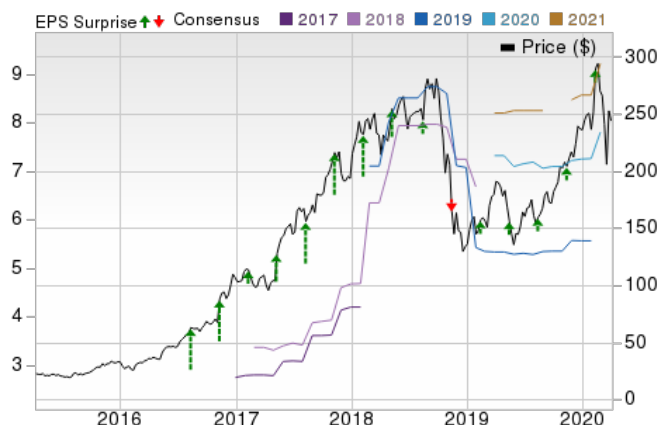
Growth: A

Momentum: D

### Summary

NVIDIA is benefiting from strong growth in GeForce desktop and notebook GPUs, which is boosting gaming revenues. Moreover, an increase in Hyperscale demand remains a tailwind for the Data Center business. Further, the solid uptake of AI-based smart cockpit infotainment solutions is a boon. Additionally, strength across desktop workstation products is aiding Professional Visualization revenues. Shares of the company have outperformed the industry in the past year. However, in the near term, management expects a \$100-million negative impact of the coronavirus menace on revenues. Moreover, the U.S.-China trade war remains a key concern. Also, lower demand for notebook workstations might be a near-term hindrance.

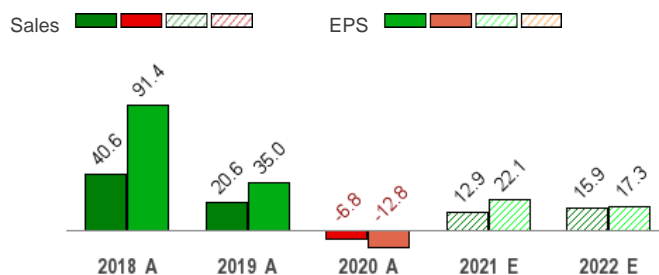
### Price, Consensus & Surprise



### Data Overview

52 Week High-Low	\$316.32 - \$132.60
20 Day Average Volume (sh)	18,362,964
Market Cap	\$164.4 B
YTD Price Change	14.1%
Beta	1.47
Dividend / Div Yld	\$0.64 / 0.2%
Industry	<a href="#">Semiconductor - General</a>
Zacks Industry Rank	Bottom 30% (177 out of 253)

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



Last EPS Surprise	13.9%
Last Sales Surprise	5.0%
EPS F1 Est- 4 week change	-14.3%
Expected Report Date	05/21/2020
Earnings ESP	-16.6%
P/E TTM	46.4
P/E F1	38.0
PEG F1	4.1
P/S TTM	15.1

### Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2022	3,201 E	3,462 E	3,862 E	3,852 E	14,285 E
2021	2,859 E	3,076 E	3,284 E	3,276 E	12,330 E
2020	2,220 A	2,579 A	3,014 A	3,105 A	10,918 A

### EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	\$1.76 E	\$1.96 E	\$2.27 E	\$2.27 E	\$8.29 E
2021	\$1.57 E	\$1.65 E	\$1.89 E	\$1.88 E	\$7.07 E
2020	\$0.88 A	\$1.24 A	\$1.78 A	\$1.89 A	\$5.79 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 04/06/2020. The reports text is as of 04/07/2020.

## Overview

NVIDIA Corporation is the worldwide leader in visual computing technologies and the inventor of the graphic processing unit, or GPU. Over the years, the company's focus has evolved from PC graphics to artificial intelligence (AI) based solutions that now support high performance computing (HPC), gaming and virtual reality (VR) platforms.

NVIDIA's GPU success can be attributed to its parallel processing capabilities supported by thousands of computing cores, which are necessary to run deep learning algorithms. The company's GPU platforms are playing a major role in developing multi-billion-dollar end-markets like robotics and self-driving vehicles.

NVIDIA is a dominant name in the Data Center, professional visualization and gaming markets where Intel and Advanced Micro Devices are playing a catch-up role. The company's partnership with almost all major cloud service providers (CSPs) and server vendors is a key catalyst.

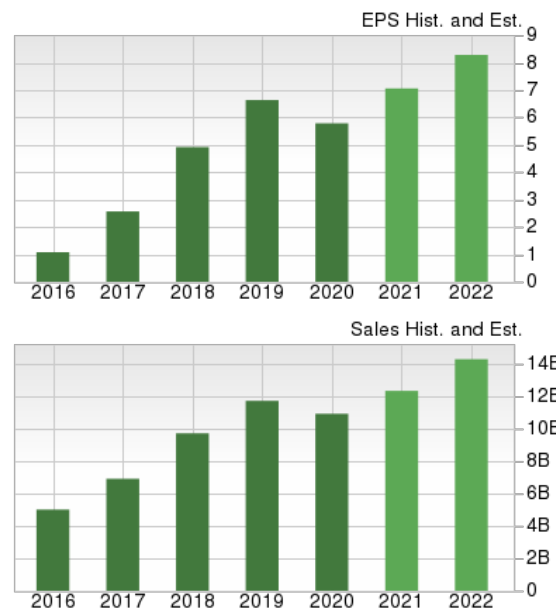
NVIDIA's GPUs are also getting rapid adoption in diverse fields ranging from radiology to precision agriculture. The company's GPUs power the top two supercomputers in the world, located at Oak Ridge and Lawrence Livermore National Laboratories in the United States, as well as the top supercomputers in Europe and Japan. In all, NVIDIA powers 136 of the TOP500 supercomputers.

Santa Clara, CA-based, NVIDIA reported revenues of \$10.92 billion in fiscal 2020. The company has two reportable segments, namely GPU and Tegra Processor that are based on a single underlying architecture.

NVIDIA's GPU Business consists primarily of the GeForce line for high-end graphics in desktop and notebook PCs, generating 87% of fiscal 2019 revenues.

A GPU can sit on top of a video card, or it can be integrated directly into the motherboard. The majority of NVIDIA's GeForce GPUs are sold on a video card. NVIDIA's GeForce line of video cards is its flagship product line and is primarily designed for the gaming market, which requires complex graphics processing.

The Tegra Processor Business mainly takes into account the Tegra product line. Tegra Processors generated 13% of fiscal 2020 revenue. This segment marked the entry of the first Tegra 3 phone along with the HTC One X.



---

## Reasons To Buy:

- ▲ NVIDIA is gaining a decent market share among the gaming service providers. The strong line-up of advanced graphics cards has made it a favorite graphics card provider among the PC makers. A strong uptick in PC gamers, eSports players and higher spending on the gaming GPUs are key catalysts. Further, NVIDIA's Turing GPU and its real-time ray tracing technology are witnessing a massive adoption. To propel wider embracement, NVIDIA is enabling ray tracing backup to several GeForce GTX GPUs, which is likely to lend developers a massive installed base of gamers. Moreover, the launch of GeForce RTX SUPER GPUs is expected to strengthen its leadership in the high end of the market. The company announced that the increasing number of blockbuster AAA titles have pledged support for NVIDIA RTX ray tracing technology. To this end, recently, Microsoft teamed up with NVIDIA to add real-time ray tracing technology to *Minecraft*. Moreover, per NVIDIA, Activision Blizzard's *Call of Duty: Modern Warfare*, Ubisoft Toronto's *Watch Dogs: Legion* and Tencent NEXt Studios' *Syned: Off Planet* have also adopted RTX.
- ▲ Datacenter presents a solid growth opportunity for the company. As more and more businesses are shifting toward cloud, the need for datacenters is increasing. To cater to this huge demand, datacenter operators like Amazon, Microsoft and Alphabet are expanding their operations across the world, which is driving demand for the GPUs. This bodes well for NVIDIA's uptrend as well. Further, the company intends to focus on new growth boosters for its data center business, such as inference, data science and machine learning techniques to consolidate its presence in this niche market. NVIDIA anticipates datacenter TAM to more than double to \$50 billion by 2023. Considered most preferred by the datacenter operators, NVIDIA's GPUs are likely to help the company grab a larger market space. The company's recently announced acquisition of Mellanox is a key catalyst in this regard.
- ▲ NVIDIA's GPUs are rapidly benefiting from the proliferation of AI. By applying its GPUs in AI models, the company is expanding its base in the other untapped markets like automotive, healthcare and manufacturing, which will support its earnings and revenues. The company is engaged with a number of organizations including the top cloud server companies like Amazon, Baidu and Facebook, which are infusing AI in various applications. NVIDIA has also partnered with the industry biggies — IBM, Microsoft and SAP in order to bring AI to the enterprise users' table. The company recently collaborated with the top-ranked OEMs including Dell, HP and Lenovo to deliver powerful workstations inclusive of Quadro RTX GPUs and its new CUDAX AI accelerated software. Moreover, a steady ramp-up of the new products is enabling the company to gain a competitive edge over the likes of AMD and Intel, and also widen its market share.
- ▲ NVIDIA's foray into the autonomous vehicles and other automotive electronics space is a positive. The company currently is on a firmer footing in the autonomous vehicle market. It is working with more than 320 automakers, tier-one suppliers, automotive research institutions, HD mapping companies and start-ups to develop and deploy AI systems for self-driving vehicles. Notably, NVIDIA's focus on incorporating AI into the cockpit for infotainment systems is allowing it to grow its autonomous driving revenues. The company expects its automotive TAM to be \$30 billion by 2025, which comprises \$25 billion for driving, \$3 billion for training/development of deep neural networks and \$2 billion for validation and testing.
- ▲ NVIDIA is a cash-rich company that lends it flexibility to invest in the long-term growth prospects and return money to its shareholders. During fiscal 2019, the company returned \$1.95 billion to investors through a combination of \$1.58 billion in share repurchases and \$371 million in quarterly cash dividends. The company is committed to returning \$3 billion to shareholders. During the fourth quarter of fiscal 2019, share buybacks worth \$700 million were made and the company returned \$195 million in the form of quarterly cash dividends in the first half of fiscal 2020. It intends to return the remaining \$2.11 billion via a combination of share repurchases and cash dividends. However, management stated that no buyback can happen prior to the closing of the Mellanox buyout and thus, this phase may extend into fiscal 2021. As of Jan 26, 2020, NVIDIA's cash, cash equivalents and marketable securities were \$10.90 billion.

Growth opportunities in ray-traced gaming, rendering, high-performance computing, AI and self-driving cars are encouraging.

---

## Reasons To Sell:

- ▼ Although datacenter has a tremendous growth scope in the long run, the near-term headwinds make us anxious, due to a temporary pause in spending by data center customers. Increasingly watchful behavior of customers across the broad-based vertical markets and geographies due to economic volatility poses a threat to NVIDIA.
  - ▼ Recent developments like the suspension of test drives for all its driverless vehicles and the absence of demand from cryptocurrency miners make us slightly alert about the company's short-term functions. The discontinuation of mid-range Pascal GPU shipments for stabilizing the channel-inventory levels is a major headwind to its gaming revenues.
  - ▼ The competition between NVIDIA and AMD has taken a meaningful turn. Previously, NVIDIA and ATI made graphics chips for the PC market. Later AMD acquired ATI and combined the CPU and parallel graphics chip into a single component. AMD is now making an effort to strengthen its position in the commodity graphics segment and CPUs for console gaming systems. AMD chips have made an entry into Sony Corp.'s PS4. Nintendo's Wii U and Microsoft's Xbox One will also be going with AMD. NVIDIA also has limited scope for growth in the apps processor market as it is dominated by Apple, Samsung and Qualcomm. We believe that competitive pressure from two CPU vendors, Intel and AMD, who are planning to integrate graphics cores into their chips can negatively impact NVIDIA's revenues, going forward.
  - ▼ A substantial portion of the company's sales is derived from outside the United States. Notably, sales revenues to customers outside the United States accounted for 87% of the total revenue for each of the last three fiscal years. Hence, we believe that any unfavorable currency fluctuation and an uncertain macroeconomic environment may moderate the company's growth.
  - ▼ NVIDIA currently has a trailing 12-month P/E ratio of 58.6X. This level compares unfavorably to some extent with what the industry saw over the last year. Hence, valuation looks stretched from a P/E perspective.
- 

Weakness in the gaming and data-center businesses due to soft demand conditions in China and the increasing customer wariness make us slightly cautious about the company's near-term performance.

## Last Earnings Report

### NVIDIA Q4 Earnings & Revenues Beat Estimates

NVIDIA reported fourth-quarter fiscal 2020 non-GAAP earnings of \$1.89 per share that beat the Zacks Consensus Estimate by 13.9% and increased a whopping 136% year over year. The bottom line also grew 6% sequentially.

Revenues of \$3.11 billion beat the consensus mark by 5.1% and surged 41% year over year. The top line also rose 3% sequentially.

Quarter Ending **01/2020**

Report Date	Feb 13, 2020
Sales Surprise	4.97%
EPS Surprise	13.86%
Quarterly EPS	1.89
Annual EPS (TTM)	5.79

### Top-Line Details

Revenues at the GPU Business soared 40% year over year to \$2.77 billion. On a sequential basis, segment revenues grew 8%.

Tegra Processor Business revenues were \$331 million, up 47% on a year-over-year basis but down 26% sequentially.

Based on market platform, Gaming revenues were up 56% on a year-over-year basis to \$1.49 billion owing to strong demand for GeForce desktop and notebook GPUs. However, the same was down 10% sequentially. New blockbuster games like Call of Duty: Modern Warfare's continued momentum in e-sports and the growing adoption of new RTX SUPER products were tailwinds for this segment.

Revenues from Data Center increased 43% year over year and 33% sequentially to \$968 million. Growth was driven by hyperscale and vertical industry end customers.

Purchases of training and inference products along with cloud computing drove hyperscale demand. Vertical industry growth was fueled primarily by consumer Internet companies. Other verticals, such as retail, healthcare and logistics, continued to grow from early-stage buildouts.

Automotive revenues in the reported quarter totaled \$163 million, which was flat year-over-year and 1% higher sequentially. Growth in AI cockpit solutions and development services agreements drove the segment.

Professional Visualization revenues climbed 13% year over year and 2% sequentially to \$331 million. Strength in desktop and notebook workstations drove year-over-year growth. Meanwhile, the sequential growth was driven by increased demand for desktop workstations, which was partially offset by lower demand for notebook workstations.

OEM and Other revenues jumped 31% year over year and 6% sequentially to \$152 million, primarily fueled by growth in entry-level GPUs for PC OEMs.

### Quarterly Highlights

During the quarter, NVIDIA announced a collaboration with Tencent to bring PC gaming in the cloud to China — the world's largest gaming market. NVIDIA's GPU technology will power Tencent's start cloud gaming service, which is in the early stages of testing.

The company also increased its gaming laptops to 125 models, including the 14-inch ASUS ROG Zephyrus G14 laptop, powered by GeForce RTX.

During the quarter, NVIDIA also partnered with Microsoft Azure to launch the scalable GPU-accelerated supercomputer in the cloud. It also announced that it is powering the powerful industrial supercomputer, HPC5, with 7,280 NVIDIA V100 GPUs.

Moreover, it was revealed that NVIDIA AI powers Alibaba and Baidu's recommendation engines.

During the fourth quarter, the company also collaborated with AWS to power the latter's Outposts with NVIDIA T4 Tensor Core GPUs, bringing Amazon EC2 G4 instances to customers' data centers.

NVIDIA also continued its efforts in the automotive segment with the launch of DRIVE AGX Orin — an advanced software-defined platform for autonomous vehicles.

### Operating Details

NVIDIA's non-GAAP gross margin expanded 940 basis points (bps) from the year-ago quarter to 65.4%, reflecting higher contribution of Data Center products and lower inventory charges in Gaming. These factors also helped the gross margin expand 130 bps sequentially.

Non-GAAP operating expenses grew 7% year over year to \$810 million, driven by increased headcount, employee compensation, stock-based compensation and infrastructure costs.

Non-GAAP operating income improved 155% year over year to \$1.22 billion.

### Balance Sheet and Cash Flow

As of Jan 26, 2020, NVIDIA's cash, cash equivalents and marketable securities were \$10.90 billion, up from \$9.77 billion as of Oct 27, 2019.

Total debt, as of Jan 26, was \$1.99 billion.

Cash flow from operating activities was \$1.46 billion in the fiscal fourth quarter, down from \$1.64 billion in the previous quarter.

Free cash flow was \$1.32 billion, down from \$1.54 billion in the previous quarter.

---

The company did not make any stock repurchase in the reported quarter due to its pending buyout of Mellanox. NVIDIA expects to close the acquisition in early calendar-year 2020.

#### **Fiscal 2020 Highlights**

Revenues for the full fiscal year came in at \$10.92 billion, down 7% year over year. Non-GAAP earnings of \$5.79 were down 13% year over year.

#### **Guidance**

For the first quarter of fiscal 2021, NVIDIA anticipates revenues of \$3 billion (+/-2%), which includes a \$100-million negative impact of the coronavirus menace. The current Zacks Consensus Estimate is pegged at \$2.84 billion.

Data Center is expected to continue its growth momentum in the fiscal first quarter.

Non-GAAP gross margin is projected to be 65-65.4% (+/-50 bps). Non-GAAP operating expenses are expected between \$835 million and \$1.05 billion.

Capital expenditures of approximately \$150-\$170 million are expected in the fiscal first quarter.

---

## Recent News

On Apr 2, 2020, NVIDIA launched notebook versions of its high-end RTX 2080 Super and RTX 2070 Super GPUs, based on the Turing architecture, which leverages hardware RT Cores to process ray tracing and AI in real time, enhancing visual fidelity. The company also revealed that PC OEMs are deploying more than 100 new laptop models featuring its GeForce GPUs, including the RTX 2080 Super or RTX 2070 Super.

On Mar 26, 2020, NVIDIA announced that coronavirus researchers would get a 90-day free access to its GPU-accelerated genome analysis toolkit — Parabricks.

On Jan 5, 2020, NVIDIA, in collaboration with ASUS, announced that it will showcase new gaming displays — the ASUS ROG Swift 360 — at the Consumer Electronics Show, which is scheduled to be held on Jan 7-10.

On Dec 18, 2019, NVIDIA announced that it has tied up with China-based Tencent Games to launch cloud gaming in the region. The company also introduced a highly advanced software-defined platform, NVIDIA DRIVE AGX Orin, for autonomous vehicles and robots. Further, NVIDIA announced that the Chinese mobile transportation company DiDi Chuxing Technology Co. will leverage its GPUs and AI technology to develop autonomous driving and cloud computing solutions.

## Valuation

NVIDIA shares are up 14% in the year-to-date (YTD) period and 40% over the trailing 12-month period. However, stocks in the Zacks sub-industry and the Zacks Technology sector decreased 9.7% and 18%, respectively, YTD. Over the past year, while the Zacks sub-industry increased 3.2%, the sector declined 9.2%.

The S&P 500 Index has fallen 22.7% YTD and 14.1% in the past year.

The stock is currently trading at 36.82X forward 12-month earnings, which compares to 16.41X for the Zacks sub-industry, 18.2X for the Zacks sector and 15.73X for the S&P 500 index.

Over the past five years, the stock has traded as high as 58.54X and as low as 17.01X, with a 5-year median of 34.85X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$282 price target reflects 38.66X forward 12-months earnings.

The table below shows summary valuation data for NVDA

Valuation Multiples - NVDA					
		Stock	Sub-Industry	Sector	S&P 500
P/E F 12M	Current	36.82	16.41	18.20	15.73
	5-Year High	58.54	19.73	21.91	19.34
	5-Year Low	17.01	12.86	16.71	15.19
	5-Year Median	34.85	16.30	19.18	17.44
P/S F12M	Current	12.03	4.36	2.89	2.72
	5-Year High	15.37	5.16	3.58	3.44
	5-Year Low	2.24	2.40	2.32	2.54
	5-Year Median	8.16	3.82	3.03	3.00
P/B TTM	Current	13.46	4.20	3.89	3.31
	5-Year High	23.55	5.44	5.37	4.55
	5-Year Low	2.28	2.15	3.15	2.84
	5-Year Median	10.26	3.65	4.27	3.63

As of 04/06/2020

## Industry Analysis Zacks Industry Rank: Bottom 30% (177 out of 253)



## Top Peers

Intel Corporation (INTC)	Outperform
QUALCOMM Incorporated (QCOM)	Outperform
Ambarella, Inc. (AMBA)	Neutral
Advanced Micro Devices, Inc. (AMD)	Neutral
Broadcom Inc. (AVGO)	Neutral
Marvell Technology Group Ltd. (MRVL)	Neutral
Texas Instruments Incorporated (TXN)	Neutral
Xilinx, Inc. (XLNX)	Neutral

Industry Comparison Industry: Semiconductor - General				Industry Peers		
	NVDA Neutral	X Industry	S&P 500	AMD Neutral	INTC Outperform	TXN Neutral
<b>VGM Score</b>	<b>C</b>	-	-	<b>B</b>	<b>A</b>	<b>D</b>
Market Cap	164.39 B	11.73 B	18.06 B	55.64 B	250.11 B	101.77 B
# of Analysts	13	7	13	11	14	12
Dividend Yield	0.24%	1.02%	2.34%	0.00%	2.26%	3.30%
<b>Value Score</b>	<b>F</b>	-	-	<b>F</b>	<b>C</b>	<b>D</b>
Cash/Price	0.07	0.07	0.06	0.03	0.06	0.06
EV/EBITDA	45.86	9.05	11.15	72.44	7.52	14.63
PEG Ratio	4.05	2.52	1.87	1.95	1.61	2.52
Price/Book (P/B)	13.47	2.77	2.46	18.72	3.23	11.44
Price/Cash Flow (P/CF)	51.09	10.87	9.59	62.48	7.69	16.79
P/E (F1)	38.03	18.54	15.66	44.34	12.08	23.51
Price/Sales (P/S)	15.06	2.77	1.92	8.27	3.48	7.08
Earnings Yield	2.63%	4.83%	6.30%	2.25%	8.28%	4.26%
Debt/Equity	0.21	0.27	0.70	0.17	0.33	0.60
Cash Flow (\$/share)	5.25	5.19	7.01	0.76	7.60	6.49
<b>Growth Score</b>	<b>A</b>	-	-	<b>A</b>	<b>B</b>	<b>C</b>
Hist. EPS Growth (3-5 yrs)	43.93%	32.11%	10.92%	NA	20.24%	20.28%
Proj. EPS Growth (F1/F0)	22.03%	-0.62%	0.33%	67.47%	-0.66%	-11.55%
Curr. Cash Flow Growth	-20.70%	-7.16%	5.93%	44.79%	6.53%	-4.66%
Hist. Cash Flow Growth (3-5 yrs)	28.68%	12.14%	8.55%	27.24%	9.99%	8.82%
Current Ratio	7.67	4.13	1.24	1.95	1.40	4.13
Debt/Capital	17.30%	21.08%	42.36%	14.67%	24.62%	37.32%
Net Margin	25.60%	25.60%	11.64%	5.07%	29.25%	34.83%
Return on Equity	26.08%	26.08%	16.74%	26.22%	29.01%	56.21%
Sales/Assets	0.71	0.71	0.54	1.26	0.54	0.81
Proj. Sales Growth (F1/F0)	12.94%	-1.68%	1.00%	27.53%	0.58%	-5.80%
<b>Momentum Score</b>	<b>D</b>	-	-	<b>C</b>	<b>B</b>	<b>F</b>
Daily Price Chg	10.04%	7.79%	7.93%	11.57%	7.94%	8.98%
1 Week Price Chg	-3.49%	-2.00%	-4.40%	-8.57%	3.36%	-0.52%
4 Week Price Chg	9.35%	4.35%	-6.89%	9.82%	14.91%	3.73%
12 Week Price Chg	6.52%	-19.36%	-24.81%	-2.51%	-1.95%	-16.15%
52 Week Price Chg	39.94%	-3.17%	-17.63%	66.56%	4.94%	-5.43%
20 Day Average Volume	18,362,964	1,707,828	4,147,873	89,406,992	41,551,736	10,493,638
(F1) EPS Est 1 week change	-13.04%	0.00%	0.00%	-1.33%	-0.15%	-1.45%
(F1) EPS Est 4 week change	-14.31%	-7.99%	-4.97%	-3.88%	-2.97%	-9.22%
(F1) EPS Est 12 week change	-9.11%	-9.11%	-6.79%	-2.49%	2.47%	-6.96%
(Q1) EPS Est Mthly Chg	-12.55%	-1.12%	-7.32%	-1.34%	-1.12%	-10.62%



## 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	A
Momentum Score	D
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.