

Illumina, Inc.(ILMN)
\$379.39 (As of 07/06/20)

Price Target (6-12 Months): **\$398.00**

Long Term: 6-12 Months

Zacks Recommendation:
Neutral

(Since: 07/08/19)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:B

Value: D

Growth: A

Momentum: B

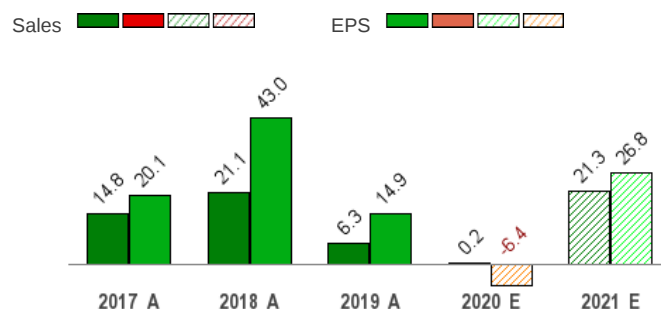
Summary

Illumina's top line in the first quarter of 2020 was driven by Sequencing Consumables, which saw robust growth in the reported quarter. Partnerships along with a strong solvency with slight leverage are encouraging. Minimal impact of the pandemic in the EMEA and AMR till mid-March is encouraging. Its first quarter results were better-than-expected. Yet, a dull show by sequential instruments, a year-over-year decline in R&D costs, lower sequencing system revenues in the low throughput category and weak performance by MiniSeq were headwinds. Fall in total array revenues is also deterring. Lower pull-through for NextSeq shipments and withdrawal of full-year guidance are concerning as well. A tough funding environment and a stiff competitive landscape are other headwinds. Overall, Illumina has underperformed its industry in the past year.

Price, Consensus & Surprise

Data Overview

52 Week High-Low	\$384.21 - \$196.78
20 Day Average Volume (sh)	766,643
Market Cap	\$55.8 B
YTD Price Change	14.4%
Beta	1.00
Dividend / Div Yld	\$0.00 / 0.0%
Industry	Medical - Biomedical and Genetics
Zacks Industry Rank	Top 25% (63 out of 251)

Sales and EPS Growth Rates (Y/Y %)


Last EPS Surprise	30.2%
Last Sales Surprise	0.3%
EPS F1 Est- 4 week change	-0.3%
Expected Report Date	08/03/2020
Earnings ESP	-13.8%
P/E TTM	57.3
P/E F1	61.7
PEG F1	2.9
P/S TTM	15.7

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	999 E	1,039 E	1,105 E	1,190 E	4,305 E
2020	859 A	679 E	935 E	1,077 E	3,550 E
2019	846 A	838 A	907 A	953 A	3,543 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$1.77 E	\$1.84 E	\$2.01 E	\$2.21 E	\$7.80 E
2020	\$1.64 A	\$0.72 E	\$1.75 E	\$2.06 E	\$6.15 E
2019	\$1.60 A	\$1.35 A	\$1.93 A	\$1.70 A	\$6.57 A

*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 07/06/2020. The reports text is as of 07/07/2020.

Overview

San Diego, CA.-based Illumina Inc. is a life sciences company, which provides tools and integrated systems for analysis of genetic variation and function. Using its proprietary technologies, the company provides innovative sequencing- and array-based solutions for genotyping, copy number variation analysis, methylation studies, and gene expression profiling of DNA and RNA.

Its customers include leading genomic research centers, academic institutions, government laboratories, hospitals and reference laboratories as well as pharmaceutical, biotechnology, agrigenomics, commercial molecular diagnostic and consumer genomics companies.

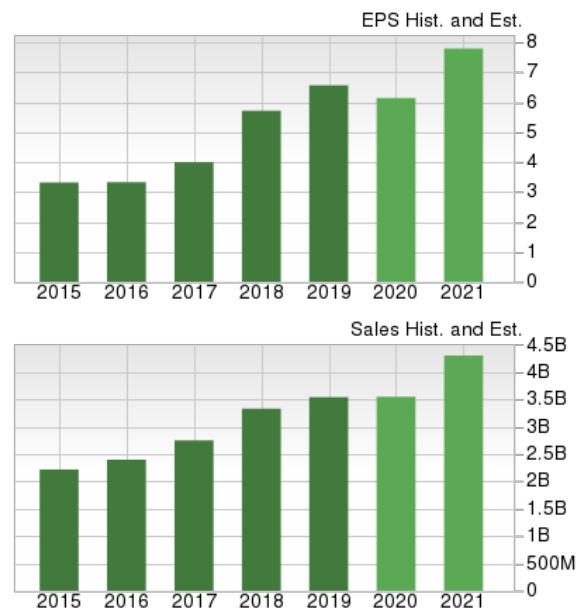
Illumina generates revenue from two segments – Product and Service.

Product revenues (82.7% of total revenues in 2019; underlying growth rate was 5.4% from 2018) are primarily attributed to the partnerships and collaborations to develop distributable clinical in-vitro diagnostics (IVDs) for Illumina sequencers. Product revenues consist of sales proceeds from the Consumables and Instruments segment used in genetic analysis. This includes reagents, flow cells, and BeadChips) based on the company's proprietary technologies.

Service revenues (17.3%, up 0.9%) include genotyping and sequencing services as well as instrument maintenance contracts.

Next-Generation Sequencing (NGS)

Illumina's portfolio of sequencing platforms represents a family of systems that are designed to meet the workflow, output, and accuracy demands of a full range of sequencing applications. The company's MiSeq sequencing system is a low-cost desktop sequencing system that provides individual researchers with rapid turnaround time, high accuracy and streamlined workflow. NextSeq 500, launched in January 2014, provides flexibility from whole genome sequencing to targeted panels in a desktop platform. The HiSeq 2500 sequencing system allows customers to sequence an entire human genome in approximately a day.



Reasons To Buy:

- ▲ **Reproductive and Genetic Health Market Prospect High:** Illumina is currently keeping well with its goals to strengthen foothold in the multi-billion gene sequencing world-wide market with some highly competitive products in its existing portfolio and pipeline. This market is developing rapidly on a global scale which has allowed the company to witness a persistent growth in the number of non-invasive prenatal test (NIPT) samples.

Reproductive health proved to be a major growth driver for the company, primarily reflecting continued growth in NIPT due to broader coverage in EMEA. In the EMEA region, the VeriSeq NIPT solution is gaining market share.

- ▲ **Solid Long-Term Growth Potential in Oncology Space:** Lately, to catalyze clinical markets Illumina has adopted a strategy to deliver market-leading technologies and tailored solutions that will enable customers to personalize patient care through genomics. In its oncology business, yet another area of focus in Illumina's market expansion – this strategy has led the company to develop pharma partnerships and bring to market custom panel tests.

The company's Oncology portfolio (representing about 20% of total sequencing consumables) grew faster than total clinical consumables in 2019 due to increasing adoption of panels including Comprehensive Genomic Profiling. Further, clinical trials, like Guardant's LUNAR, boost the use of sequencing consumable in oncology testing. The company also believes China to be a strong market for its oncology business.

Illumina is continuing expansion of clinical portfolio through the TruSight Oncology 500 (TSO 500) and TruSight NIPT. Notably, TSO 500 is a NGS-based tumor profiling evaluation, analyzing hundreds of cancer-related biomarkers and is also included in the company's 523 gene oncology panel currently available as research use only. As a major breakthrough, in January, Illumina entered into a collaboration agreement with Roche under which the latter will complement Illumina's comprehensive pan-cancer assay TSO 500 with new companion diagnostic (CDx) claims. In the first quarter of 2020, Sequencing Consumable revenues recorded an uptick of 14.9% year over year fueled by COVID-19-related stocking among clinical customers and broader strength across sequencing consumables, and sequencing service and other.

- ▲ **Greater Market Adoption Amid Pandemic:** Illumina's production scale got a major boost due to the pandemic. As soon as the virus started spreading on a global scale, the company scaled up production to support customer needs. This included the installation of iSeq and MiSeq systems since January at one of the CDCs in the hardest hit region along with supporting other CDC locations and hospitals across the country.

Illumina launched the SARS-CoV-2 Data Toolkit in April, which is a new suite of data analysis tools and workflow functionality for researchers working on the virus using next-generation sequencing. The toolkit will make it easier to detect and identify the virus. Currently, the company is providing the toolkit free of charge to the global research community to help combat the pandemic. Illumina also donated sequencing systems and related consumables to support the expansion of SARS-CoV-2 sequencing capabilities and capacity in up to 10 African countries.

- ▲ **Worldwide Expansion to Drive Growth:** Apart from North America, Illumina markets and distributes its products directly to customers in Europe, Latin America, and the Asia-Pacific region (APAC) either through its direct selling force or through distributors that specialize in life science products. In the first quarter, minimal impact of the coronavirus pandemic was felt in the EMEA and AMR till mid-March as is evident from the better-than-expected performance in the regions. The overall year-over-year improvement in revenues of 1.5% can be attributed to the company's strength in sequencing consumables, and sequencing services and other. Further, in the first quarter of 2020, the NovaSeq pull-through per system witnessed year-over-year growth within the company's expectations.

- ▲ **Partnerships Strengthen Business:** We are optimistic about Illumina's expansion strategy through the enhancement of its portfolio of sequencing products through new purchases and the development of strategic partnerships with therapeutics and diagnostic services providers.

Illumina partnered with IDbyDNA in March with the aim of co-marketing IDbyDNA's Explify Platform for use with Illumina's NGS systems and library preparation to provide a complete and streamlined workflow solution for infectious disease applications.

In terms of strategic collaborations and acquisitions, Illumina partnered with Roche to accelerate the availability of distributable NGS-based IVD tests on Illumina's diagnostic (Dx) sequencing systems.

Other partnerships like that with the New York Genome Center, Stanford, Adaptive Biotechnology and Genomics England are progressing well. Illumina's partnership with QIAGEN, which was aimed at expanding the accessibility and use of NGS-based IVD kits, including companion diagnostics, for better patient management, is also a strategic addition to Illumina's strength.

Further, Illumina's partnership with QIAGEN is aimed at expanding the accessibility and use of NGS-based IVD kits, including companion diagnostics, for better patient management. Illumina's collaboration with Adaptive Biotechnologies Corporation will enable clinicians to carry out clinical immunodiagnostic testing, which can be conducted in local laboratories.

All these indicates that Illumina's products still stand a chance to outreach a large portion of sequencing programs in demand, which in turn might boost its profit margin.

- ▲ **Strong Solvency With Slight Leverage:** Illumina exited the first quarter of 2020 with cash and cash equivalents, and short-term investments of \$3.33 billion compared with \$3.41 billion at the end of the fourth quarter of 2019. Meanwhile, total debt rose to \$1.85 billion for the period from \$1.84 billion in the sequentially last-reported quarter. This figure is much lower than the quarter-end cash and cash equivalent, and short-term investments level, indicating strong solvency.

Moreover, if we go by the company's debt payable in the near term, it stands at \$499 million, insignificant compared to the current cash holding. This is good news, implying that it has sufficient cash for debt repayment despite the pandemic.

Illumina's market opportunities continue to expand owing to accelerated demand from clinical and translational customers. The company's recent strategic collaborations are expected to expand its product portfolio.

Debt comparison with the industry is, however, favorable as industry's total debt of \$2.50 billion, stands much higher to the company's debt level.

The quarter's total debt-to-capital ratio of 0.29 indicates a slightly leveraged balance sheet. This, however, remains flat compared with the sequentially last-reported quarter. This compares favorably with the total debt-to-capital of the industry, which stands at a higher ratio of 0.51.

Meanwhile, the times interest earned for the company stands at a pretty encouraging level of 23.1%, representing an increase from 22.5% at the end of the fourth quarter of 2019. This, however, compares favorably with the times interest earned for the industry which stands at a lower level (6.7%).

The company authorized a share repurchase program worth \$750 million of outstanding common stock and repurchased approximately \$187 million of common stock in the first quarter.

Reasons To Sell:

- ▼ **Share Price performance:** In the past year, Illumina has underperformed its industry. The stock has gained 1.2% compared with the industry's growth of 4.6%. A year-over-year decline in research and development costs, lower sequencing system revenues in the low throughput category and weak performance by MiniSeq were headwinds. The decline in total array revenues is also concerning. Lower pull-through for NextSeq shipments, except NextSeq 2000, is another headwind. Contraction in adjusted operating margin due to escalation in selling, general & administrative expenses and the company withdrawal of full-year guidance are concerning as well.
 - ▼ **Expensive Valuation:** Illumina's P/S (F12M) ratio is expensive in comparison to the broader industry. The company is currently trading at a forward P/S (F12M) ratio of 13.6 for the six months, whereas the current P/S (F12M) for the industry it belongs to is 3.2.
 - ▼ **Tough Funding Environment to Restrict Growth:** Illumina's exposure to the U.S. government funding was less than 30% in 2015 (academic or government customers in the U.S. that directly or indirectly derive funding from the U.S. National Institute of Health or NIH). NIH, as part of the U.S. Department of Health and Human Services (HHS), is the nation's medical research agency aimed at improving health and saving lives. Budgetary pressures may result in further reduced allocations to government agencies that fund research and development activities, such as NIH. Any shift from the funding of life sciences research and development or delays surrounding the approval of government budget proposals may cause Illumina's customers to delay or forego purchases of its products.
 - ▼ **Tough Competition:** Illumina faces significant competition in the sequencing, SNP genotyping, gene expression and molecular diagnostics markets with several large players already enjoying significant market share, intellectual property portfolios and regulatory expertise. Such companies include the likes of Agilent Technologies, Pacific Biosciences of California, BGI, QIAGEN N.V., Roche Holding A.G. and Thermo Fisher Scientific, among others. With substantially greater financial, technical, research and other resources, and larger, more established marketing, sales, distribution and service organization, these companies offer substantial challenges for Illumina. To compete effectively, the company must upgrade its organization and infrastructure appropriately and develop products with superior throughput, cost, and accuracy.
-

Government budget cuts, including NIH funding issues, and competition headwinds persist as major downsides.

Last Earnings Report

Illumina Beats Q1 Earnings Estimates, Withdraws View

Illumina's first-quarter 2020 adjusted earnings per share of \$1.64 surpassed the Zacks Consensus Estimate by 30.2%. Moreover, the bottom line improved 2.5% from the year-ago quarter.

Notably, adjusted net income excludes expenses related to the Reverse Termination Fee and Continuation Advances paid to Pacific Biosciences in the quarter.

Including one-time items, the company's GAAP earnings per share was \$1.17, down 25.5% year over year.

Revenues

In the quarter under review, Illumina's revenues rose 1.5% year over year to \$859 million. The top line also surpassed the Zacks Consensus Estimate by 1.2%. The year-over-year improvement can be attributed to the company's strength in sequencing consumables, and sequencing services and other. However, this was dented by lower-than-expected sequencing system revenue.

Segment Details

Sequencing Consumable revenues totaled \$553 million in the reported quarter, up 14.9% year over year. **Sequencing Instrument** revenues were \$79 million, down 24.8% from the year-ago figure. **Sequencing** revenues, a subsegment of the Service & Other segment, were \$128 million, up 13.3% from the year-ago quarter.

In the first quarter of 2020, the NovaSeq pull-through per system witnessed year-over-year growth within the company's expectations. Pull-through for both MiSeq and, NextSeq 500 and 550s were flat compared with the sequentially previous quarter. NextSeq shipments, except NextSeq 2000, were lower than expected due to COVID-related disruptions toward the end of the quarter. Further, MiniSeq was below its expected pull through range.

Margins

Gross margin (excluding amortization of acquired intangible assets) was 72.9% in the reported quarter, highlighting an expansion of 278 basis points (bps) year over year.

Research and development expenses declined 7.7% year over year to \$156 million, and selling, general & administrative expenses rose 29.9% to \$274 million. These expenses pushed up the operating cost by 13.2% to \$430 million.

Adjusted operating margin came in at 22.8%, reflecting a contraction of 236 bps year over year.

Financial Update

Illumina exited the first quarter of 2020 with cash and cash equivalents plus short-term investments of \$3.33 billion compared with \$3.41 billion at the end of 2019. The company authorized a share repurchase program to buy back \$750 million of outstanding common stock and repurchased approximately \$187 million of common stock in the first quarter.

At the end of the fiscal first quarter, net cash provided by operating activities was \$281 million compared with \$198 million a year ago.

2020 Guidance

Illumina noted that it is not in a position to estimate the extent of severity and duration of the outbreak as well as quantify the actual impact. Accordingly, it has withdrawn its financial guidance for full-year 2020 revenue and earnings per share guidance.

Quarter Ending 03/2020

Report Date	Apr 30, 2020
Sales Surprise	0.25%
EPS Surprise	30.16%
Quarterly EPS	1.64
Annual EPS (TTM)	6.62

Recent News

On **Jun 17, 2020**, Illumina acquired BlueBee, a cloud-based software company providing genomics analysis solutions for research and clinical customers, to enhance its capabilities to analyze and interpret the data produced by its sequencing systems.

On **Jun 9, 2020**, Illumina announced the receipt of the FDA's Emergency Use Authorization (EUA) for its COVIDSeq Test, which is a high-throughput sequencing-based in vitro diagnostic (IVD) workflow that enables the detection of SARS-CoV-2.

On **Apr 16, 2020**, Illumina announced its SARS-CoV-2 Data Toolkit, which is a new suite of data analysis tools and workflow functionality for researchers who are working with the virus using next-generation sequencing.

Valuation

Illumina shares are up 14.4% in the year-to-date period and up 1.2% in the trailing 12-month periods. Stocks in the Zacks sub-industry are up 11.1% while the Zacks Medical sector are up 1.1% in the year-to-date period. Over the past year, the Zacks sub-industry is up 18.2% while sector is up 4.6%.

The S&P 500 index is down 1.1% in the year-to-date period and up 7.4% in the past year.

The stock is currently trading at 54.0X Forward 12-months earnings, which compares to 61.9X for the Zacks sub-industry, 23.1X for the Zacks sector and 22.7X for the S&P 500 index.

Over the past five years, the stock has traded as high as 63.2X and as low as 29.5X, with a 5-year median 45.7X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$398 price target reflects 54.6X forward 12-months earnings.

The table below shows summary valuation data for ILMN.

Valuation Multiples - ILMN					
		Stock	Sub-Industry	Sector	S&P 500
P/E F 12M	Current	54.03	61.87	23.12	22.72
	5-Year High	63.2	139.78	23.12	22.72
	5-Year Low	29.47	20.99	15.93	15.15
	5-Year Median	45.73	42.66	18.63	17.42
P/S F12M	Current	14.11	2.46	2.79	3.54
	5-Year High	14.82	2.91	3.79	3.54
	5-Year Low	6.73	1.99	2.42	2.54
	5-Year Median	10.73	2.52	2.92	3.01
P/B TTM	Current	12.03	4.14	4.51	4.45
	5-Year High	19.28	5.28	4.92	4.52
	5-Year Low	6.67	2.5	3.33	2.82
	5-Year Median	11.15	3.27	4.22	3.63

As of 07/06/2020

Industry Analysis Zacks Industry Rank: Top 25% (63 out of 251)



Top Peers

Company (Ticker)	Rec	Rank
Quest Diagnostics Incorporated (DGX)	Outperform	1
QIAGEN N.V. (QGEN)	Outperform	1
Abbott Laboratories (ABT)	Neutral	2
Becton, Dickinson and Company (BDX)	Neutral	3
Danaher Corporation (DHR)	Neutral	3
Hologic, Inc. (HOLX)	Neutral	3
Myriad Genetics, Inc. (MYGN)	Neutral	3
Thermo Fisher Scientific Inc. (TMO)	Neutral	2

Industry Comparison Industry: Medical - Biomedical And Genetics				Industry Peers		
	ILMN	X Industry	S&P 500	HOLX	MYGN	TMO
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	3	2
VGM Score	B	-	-	C	C	C
Market Cap	55.77 B	237.09 M	22.04 B	14.94 B	884.22 M	150.98 B
# of Analysts	7	3	14	8	5	8
Dividend Yield	0.00%	0.00%	1.89%	0.00%	0.00%	0.23%
Value Score	D	-	-	B	A	C
Cash/Price	0.06	0.22	0.07	0.05	0.21	0.02
EV/EBITDA	38.31	-3.80	12.81	48.84	11.57	23.81
PEG Ratio	2.86	1.94	2.94	3.61	1.68	2.50
Price/Book (P/B)	12.03	4.18	3.01	7.14	0.91	5.29
Price/Cash Flow (P/CF)	46.09	16.65	11.87	13.78	5.10	21.14
P/E (F1)	61.50	24.93	21.54	25.42	21.88	31.20
Price/Sales (P/S)	15.68	17.97	2.35	4.49	1.16	5.89
Earnings Yield	1.62%	-12.73%	4.39%	3.94%	4.55%	3.20%
Debt/Equity	0.29	0.02	0.76	1.32	0.29	0.67
Cash Flow (\$/share)	8.23	-1.08	6.94	4.20	2.33	18.08
Growth Score	A	-	-	C	D	D
Hist. EPS Growth (3-5 yrs)	20.07%	17.18%	10.90%	8.72%	-16.35%	13.78%
Proj. EPS Growth (F1/F0)	-6.46%	11.66%	-9.51%	-6.33%	510.61%	-0.79%
Curr. Cash Flow Growth	13.10%	15.03%	5.51%	2.17%	21.53%	6.99%
Hist. Cash Flow Growth (3-5 yrs)	16.75%	7.75%	8.55%	3.55%	-3.44%	10.08%
Current Ratio	4.10	5.25	1.30	1.31	3.14	2.32
Debt/Capital	22.53%	4.38%	44.46%	56.96%	22.52%	40.24%
Net Margin	26.48%	-203.26%	10.62%	18.53%	-19.49%	14.31%
Return on Equity	21.78%	-61.23%	15.75%	30.49%	1.95%	17.25%
Sales/Assets	0.50	0.19	0.55	0.51	0.49	0.44
Proj. Sales Growth (F1/F0)	0.17%	4.06%	-2.57%	-8.86%	8.48%	-0.99%
Momentum Score	B	-	-	C	D	B
Daily Price Chg	1.69%	0.00%	1.12%	0.00%	2.42%	4.48%
1 Week Price Chg	3.62%	0.00%	3.66%	8.11%	8.33%	4.26%
4 Week Price Chg	5.74%	-0.53%	-7.12%	8.94%	-28.08%	9.26%
12 Week Price Chg	31.07%	26.51%	11.84%	41.26%	-21.66%	21.23%
52 Week Price Chg	1.14%	2.24%	-6.03%	22.22%	-56.41%	28.36%
20 Day Average Volume	766,643	382,230	2,400,079	2,747,916	1,604,780	1,442,069
(F1) EPS Est 1 week change	0.19%	0.00%	0.00%	-1.39%	0.00%	2.96%
(F1) EPS Est 4 week change	-0.33%	0.00%	0.00%	1.53%	0.00%	2.79%
(F1) EPS Est 12 week change	-5.04%	0.41%	-8.26%	-4.10%	-50.81%	-2.94%
(Q1) EPS Est Mthly Chg	-0.53%	0.00%	0.00%	6.79%	0.00%	0.05%

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	D
Growth Score	A
Momentum Score	B
VGM Score	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.

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.