

Illumina, Inc.(ILMN)

\$362.00 (As of 01/13/21)

Price Target (6-12 Months): **\$308.00**

Long Term: 6-12 Months | **Zacks Recommendation:** **Underperform**
(Since: 01/13/21)
Prior Recommendation: Neutral

Short Term: 1-3 Months | **Zacks Rank:** (1-5) **5-Strong Sell**
Zacks Style Scores: VGM:F
Value: D | Growth: D | Momentum: D

Summary

Illumina saw dismal segmental performance in the third quarter of 2020 due to pandemic-led disruptions, which dragged down the overall top line. Fall in total microarray revenues is also particularly concerning. Contraction in both margins and Illumina's inability to issue its full-year guidance raise apprehensions too. A tough funding environment and stiff competition are other headwinds. In the past six months, Illumina has underperformed its industry. Yet, the gradually improving business conditions buoy optimism on the stock. Sequential improvement in segmental revenues across geographies looks impressive as well. Potential in oncology, and reproductive and genetic health buoys optimism. Partnerships and a strong solvency with slight leverage are encouraging. Illumina's third quarter results were better-than-expected.

Data Overview

52-Week High-Low **\$404.20 - \$196.78**

20-Day Average Volume (Shares) **896,040**

Market Cap **\$52.9 B**

Year-To-Date Price Change **-2.2%**

Beta **1.14**

Dividend / Dividend Yield **\$0.00 / 0.0%**

Industry **Medical - Biomedical and Genetics**

Zacks Industry Rank **Bottom 19% (206 out of 253)**

Last EPS Surprise **32.5%**

Last Sales Surprise **10.2%**

EPS F1 Estimate 4-Week Change **-19.0%**

Expected Report Date **02/03/2021**

Earnings ESP **9.4%**

P/E TTM **72.7**

P/E F1 **60.2**

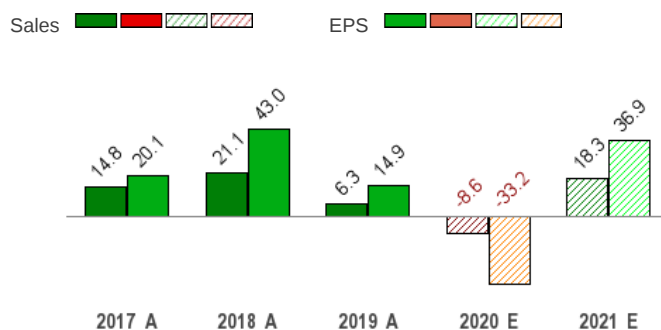
PEG F1 **8.6**

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	895 E	925 E	1,002 E	1,087 E	3,828 E
2020	859 A	633 A	794 A	950 E	3,237 E
2019	846 A	838 A	907 A	953 A	3,543 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$1.33 E	\$1.44 E	\$1.53 E	\$1.65 E	\$6.01 E
2020	\$1.64 A	\$0.62 A	\$1.02 A	\$1.11 E	\$4.39 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 01/13/2021. The reports text is as of 01/14/2021.

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.

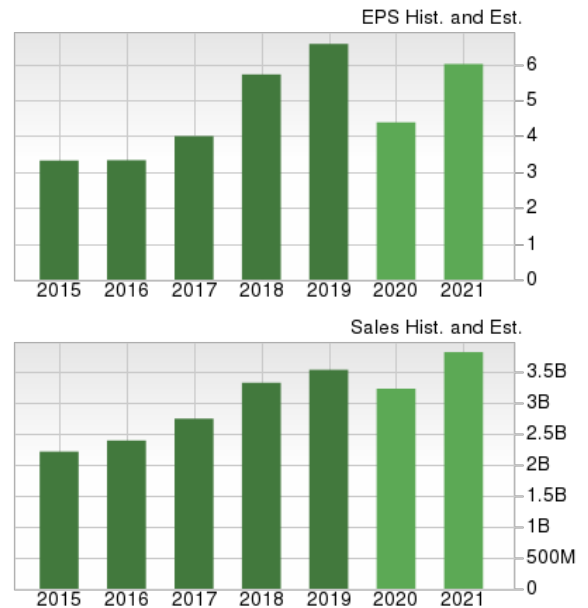
Illumina generates revenue from two segments – Product and Service.

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.



Source: Zacks Investment Research

Reasons To Sell:

- ▼ **Share Price performance:** In the past six months, Illumina has underperformed its industry. The stock has lost 5.3% against the industry's rise of 2%. Illumina exited the third quarter with better-than-expected results. However, its dismal segmental performance due to pandemic-led business disruptions dragged down the overall top line. Decline in total microarray revenues due to COVID-19-related headwinds is also particularly concerning. Contraction in both margins does not bode well for the stock either. The company's inability to issue its full-year guidance raises apprehensions too. A tough funding environment and stiff competition are other headwinds.
- ▼ **Coronavirus-Led Business Disruptions:** The coronavirus pandemic has been wreaking havoc on the global economy, thus hurting the top line of almost all companies. Illumina has not been an exception to the economic havoc and subsequent fall in revenues. In the third quarter, the top line declined 12.5% due to the pandemic-led business disruptions. Segmental performance was also disappointing, with Sequencing Instrument revenues registering a fall of 23.2%. Total Microarray revenues were also down, the pandemic being one of the reasons behind it. The COVID-19 headwinds primarily resulted from the research market which is, however, witnessing a gradual resumption in activities.
- ▼ **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 13.1 for the six months, whereas the current P/S (F12M) for the industry it belongs to is 2.4.
- ▼ **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.

Risks

- **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 has been driving the clinical business' growth both sequentially and on year-over-year basis amid the pandemic. The company's NIPT solution has maintained its strength in the Americas.

- **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.

Illumina collaborated with Roche in January to boost the comprehensive pan-cancer assay TSO 500 of the former with the latter's new companion diagnostic (CDx) claims. The company launched the TruSight Software Suite in July, which is expected to accelerate and facilitate the adoption of whole-genome sequencing. Notably, the company is on track to release a CE-IVD-marked TSO comprehensive assay in 2021, which can be used by the laboratories to continue to improve cancer patient outcomes.

Although the Sequencing Consumable revenues are down lately amid the pandemic, the run rates are gradually improving. In fact, the company noted that some of its clinical customers are at or above their run rate from the fourth quarter of last year. Further, there has been a gradual improvement in the number of oncology testing.

- **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.

The company, in August, released the NovaSeq6000 v1.5 Reagent Kit to make whole-genome (the complete set of genes or genetic material present in a cell or organism) sequencing more accessible and affordable for labs of all sizes.

In June, Illumina received the FDA's Emergency Use Authorization (EUA) for its COVIDSeq Test. The test is a high-throughput sequencing-based in vitro diagnostic workflow, which enables the detection of SARS-CoV-2.

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. 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 quarter under review, EMEA revenues improved compared to the sequentially last-reported quarter primarily due to strength in sequencing consumables resulting from a strong rebound in both clinical and research customers.

Sequential growth in revenues was also registered in the Americas in the third quarter of 2020, driven by both research and clinical customers on laboratories gradually reopening and increase in clinical activity. Further, revenues from China grew sequentially due to strength in instrument placements.

Sequencing system placements witnessed sequential increase, including higher NovaSeq and NextSeq shipments. Illumina witnessed a robust quarter for mid-throughput shipments driven by customer demand for NextSeq 2000 and NextSeq 550 Dx platforms. NextSeq 2000's adoption across a broad range of clinical and research applications remains robust, including oncology testing and infectious disease including COVID-19 research.

- **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, in September, announced its entry into a definitive agreement with healthcare company GRAIL, under which Illumina will acquire the latter for cash and stock consideration of \$8 billion upon closing of the transaction.

Illumina's buyout of cloud-based software company BlueBee (in June) is aimed at enhancing the former's capabilities to analyze and interpret the data produced by its sequencing systems.

Notable partnerships inked by Illumina are with IDbyDNA (in March) and Roche. The company aims at co-marketing IDbyDNA's Explify Platform for use with its NGS systems and library preparation to provide a complete and streamlined workflow solution for infectious disease applications. The collaboration with Roche is 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.

- **Strong Solvency With Slight Leverage:** Illumina exited the third quarter of 2020 with cash and cash equivalents, and short-term investments of \$3.32 billion compared with \$3.27 billion at the end of the second quarter of 2020. Meanwhile, total debt rose to \$1.17 billion for the period from \$1.16 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 \$507 million, insignificant compared to the current cash holding. This is good news, implying that it has sufficient cash for debt repayment despite the pandemic.

The quarter's total debt-to-capital of 20% indicates a slightly leveraged balance sheet. This, however, represents a decrease from the sequentially last-reported quarter's 20.3%. The overall data concludes that in terms of solvency level of the company, the picture is encouraging.

Meanwhile, the times interest earned for the company stands at a pretty encouraging level of 19.8%, representing a decrease from 21% at the end of the second quarter of 2020.

Last Earnings Report

illumina Q3 Earnings Top Estimates, Margins Decline

illumina third-quarter 2020 adjusted earnings per share of \$1.02 surpassed the Zacks Consensus Estimate by 32.5%. However, the bottom line plunged 47.2% from the year-ago quarter.

The adjustments include discrete tax expenses and net gains from market-to-market adjustments on the company's investments, primarily from its marketable equity securities.

Including one-time items, the company's GAAP earnings per share was \$1.21, down by 23.4% year over year.

Quarter Ending	09/2020
Report Date	Oct 29, 2020
Sales Surprise	10.15%
EPS Surprise	32.47%
Quarterly EPS	1.02
Annual EPS (TTM)	4.98

Revenues

In the quarter under review, illumina's revenues dropped 12.5% year over year to \$794 million. However, the top line exceeded the Zacks Consensus Estimate by 10.2%.

Although the third quarter's revenues registered a year-over-year decline, the same was up 26% from the sequentially last reported quarter.

Segment Details

Sequencing Consumable revenues totaled \$500 million in the reported quarter, down 4.8% year over year. **Sequencing Instrument** revenues were \$109 million, down 23.2% from the year-ago figure. **Sequencing** revenues, a subsegment of the Service & Other segment, were \$99 million, down 28.3% from the year-ago quarter.

In the third quarter, illumina noted that increased shipments of NovaSeq and NextSeq significantly contributed to its top line. Notably, NextSeq 2000 and NextSeq 550 shipments exceeded the company's expectations during the reported quarter. The period also witnessed continued adoption of NextSeq 2000 across a broad range of clinical and research applications including oncology testing and COVID-19 research.

Margins

Adjusted gross margin (excluding amortization of acquired intangible assets) was 67.1% in the reported quarter, highlighting a contraction of 531 basis points (bps) year over year.

Research and development expenses increased 13.9% year over year to \$172 million, whereas selling, general & administrative expenses rose 1.6% to \$192 million. These pushed up the operating costs by 7.1% to \$364 million.

Adjusted operating income in the quarter was \$169 million, down 46.7% from the year-ago income. Adjusted operating margin came in at 21.3%, reflecting a huge contraction of 1367 bps year over year.

Financial Update

illumina exited the third quarter of 2020 with cash and cash equivalents plus short-term investments of \$3.32 billion compared with \$3.27 billion at the end of the second quarter. Long-term debt (including current portion) in the third quarter was \$1.17 billion compared with \$1.16 billion at the end of the second quarter.

The company repurchased \$125 million of common stock in the quarter and \$295 million is still available for share repurchase under the company's current plan.

Cumulative net cash provided by operating activities at the end of the third quarter was \$674 million compared with \$608 million a year ago.

Cumulative capital expenses incurred by the company at the end of the third quarter were \$127 million compared with \$152 million a year ago. Accordingly, cumulative free cash flow reported by the company at the end of the third quarter was \$547 million, up from the year-ago free cash flow of \$456 million.

2020 Guidance

illumina noted that it is not in a position to estimate the extent of severity and duration of the coronavirus outbreak as well as quantify its actual impact. As a result, it did not provide any financial guidance for 2020 revenues and earnings per share.

Recent News

Illumina Launches ICA to Enhance Data Platform: Jan 11, 2021

Illumina launched Illumina Connected Analytics ("ICA") to transform genomic data bottlenecks into catalysts and provide a comprehensive and private cloud-based data platform for improved customer empowerment.

Illumina Announces a Slew of Oncology Partnerships: Jan 11, 2021

Illumina announced a slew of new and expanded partnerships within oncology with the aim of expanding the reach of its comprehensive genomic profiling family of products, TruSight Oncology. The collaborations include that with Bristol Myers Squibb, Kura Oncology, Myriad Genetics and Merck.

Illumina, Helix Partner to Develop Tracking Setup in U.S.: Jan 5, 2021

Illumina announced its entry into a partnership with renowned population genomics company, Helix, to enhance national surveillance infrastructure in the United States to track the emergence and prevalence of novel strains of SARS-CoV-2 UK Variant (B.1.1.7).

Illumina-Harvard Pilgrim Partner to Expand WGS Access: Dec 8, 2020

Illumina announced a risk-sharing agreement with Harvard Pilgrim Health Care to make whole-genome sequencing ("WGS") available to eligible Harvard Pilgrim members.

Illumina's P3 High-Output Flow Cell Now Commercially Available: Nov 12, 2020

Illumina announced the commercial availability of the P3 high-output flow cell, thus further extending the reach of the NextSeq 2000 Sequencing System.

Valuation

Illumina shares are down 5.3% over the past six months and up 12.9% in the trailing 12-month periods. Stocks in the Zacks sub-industry are up 2% while the Zacks Medical sector are up 5.9% over the past six months. Over the past year, the Zacks sub-industry is up 8.4% while sector is up 4.6%.

The S&P 500 index is up 18.8% over the past six months and up 17.7% in the past year.

The stock is currently trading at 56.5X Forward 12-months earnings, which compares to 49.4X for the Zacks sub-industry, 23.1X for the Zacks sector and 23.1X for the S&P 500 index.

Over the past five years, the stock has traded as high as 62.7X and as low as 29.5X, with a 5-year median 46.1X. Our Underperform recommendation indicates that the stock will perform below the market. Our \$308 price target reflects 48.1X 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 F12M	Current	56.49	49.38	23.09	23.14
	5-Year High	62.66	59.86	23.09	23.79
	5-Year Low	29.47	20.87	15.90	15.30
	5-Year Median	46.12	38.16	19.13	17.83
P/S F12M	Current	13.08	2.35	2.87	4.53
	5-Year High	14.82	3.31	3.17	4.53
	5-Year Low	6.73	1.83	2.26	3.20
	5-Year Median	11.01	2.34	2.85	3.68
P/B TTM	Current	11.25	2.84	4.49	6.55
	5-Year High	16.10	5.09	5.11	6.58
	5-Year Low	6.67	2.00	3.02	3.73
	5-Year Median	10.97	3.77	4.35	4.94

As of 01/13/2021

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Bottom 19% (206 out of 253)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Alexion Pharmaceuticals, Inc. (ALXN)	Neutral	2
BioMarin Pharmaceutical Inc. (BMRN)	Neutral	3
QIAGEN N.V. (QGEN)	Neutral	3
SINO PHARMACEUT (SBMFF)	Neutral	4
Thermo Fisher Scientific Inc. (TMO)	Neutral	3
Vertex Pharmaceuticals Incorporated (VRTX)	Neutral	3
SWEDISH ORP BIO (BIOVF)	Underperform	5
Incyte Corporation (INCY)	Underperform	4

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

Industry Comparison Industry: Medical - Biomedical And Genetics				Industry Peers		
	ILMN	X Industry	S&P 500	SBMFF	TMO	VRTX
Zacks Recommendation (Long Term)	Underperform	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	5	-	-	4	3	3
VGM Score	F	-	-	B	B	A
Market Cap	52.85 B	383.02 M	27.19 B	17.37 B	198.85 B	59.05 B
# of Analysts	7	3	13	1	10	12
Dividend Yield	0.00%	0.00%	1.41%	0.00%	0.18%	0.00%
Value Score	D	-	-	C	C	B
Cash/Price	0.06	0.20	0.06	0.15	0.04	0.10
EV/EBITDA	35.75	-5.07	14.93	NA	30.24	34.25
PEG F1	8.60	1.23	2.63	NA	1.40	1.00
P/B	11.24	4.56	3.78	2.97	6.25	7.26
P/CF	43.98	19.49	14.43	19.49	27.74	47.65
P/E F1	60.23	26.32	20.64	30.67	25.17	20.46
P/S TTM	16.32	22.44	2.99	NA	6.98	9.86
Earnings Yield	1.66%	-10.16%	4.73%	3.26%	3.97%	4.89%
Debt/Equity	0.14	0.00	0.70	0.35	0.66	0.07
Cash Flow (\$/share)	8.23	-1.12	6.93	0.05	18.08	4.77
Growth Score	D	-	-	B	B	A
Historical EPS Growth (3-5 Years)	18.99%	18.53%	9.72%	NA	15.29%	172.84%
Projected EPS Growth (F1/F0)	37.04%	6.93%	12.36%	50.00%	6.16%	6.79%
Current Cash Flow Growth	13.10%	11.33%	5.22%	-50.46%	6.99%	52.02%
Historical Cash Flow Growth (3-5 Years)	16.75%	6.94%	8.37%	NA	10.08%	31.70%
Current Ratio	3.88	6.10	1.38	3.27	2.93	3.72
Debt/Capital	12.41%	0.00%	41.97%	25.73%	39.86%	6.30%
Net Margin	19.70%	-209.88%	10.44%	NA	17.12%	44.91%
Return on Equity	15.93%	-58.66%	15.37%	NA	21.35%	30.86%
Sales/Assets	0.44	0.18	0.50	NA	0.47	0.62
Projected Sales Growth (F1/F0)	25.18%	24.23%	6.02%	20.17%	7.29%	10.57%
Momentum Score	D	-	-	C	A	B
Daily Price Change	0.20%	-0.05%	-0.30%	2.22%	0.59%	-0.99%
1-Week Price Change	2.60%	5.61%	2.23%	-2.35%	9.99%	0.28%
4-Week Price Change	2.46%	6.09%	3.84%	3.37%	9.59%	-2.16%
12-Week Price Change	13.89%	20.20%	14.40%	-11.54%	7.03%	7.44%
52-Week Price Change	12.99%	12.48%	7.38%	0.00%	49.67%	-3.01%
20-Day Average Volume (Shares)	896,040	337,545	1,726,400	16,115	1,412,108	1,370,169
EPS F1 Estimate 1-Week Change	-18.69%	0.00%	0.00%	0.00%	0.67%	0.00%
EPS F1 Estimate 4-Week Change	-19.00%	0.00%	0.07%	0.00%	0.38%	0.00%
EPS F1 Estimate 12-Week Change	-20.27%	0.00%	2.55%	-14.29%	13.39%	3.89%
EPS Q1 Estimate Monthly Change	-10.44%	0.00%	0.00%	NA	0.00%	0.00%

Source: Zacks Investment Research

Zacks Stock Rating System

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

Zacks Recommendation

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

Zacks Rank

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

Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

Value Score	D
Growth Score	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.

Additional Disclosure

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

Glossary of Terms and Definitions

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a medium-term price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the most recent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

S&P 500 Index: The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every \$1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

EV/FCF Ratio: The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

P/EBITDA Ratio: The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

P/B Ratio: The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

P/TB Ratio: The price-to-tangible-book value ratio is calculated as the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

P/CF Ratio: The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

P/FCF Ratio: The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

Earnings Yield: The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at \$35 and expected to earn \$3 per share in the current fiscal year (F1), would be 0.0857 ($3/35 = 0.0857$) or 8.57%. In other words, for \$1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

Debt/Equity Ratio: The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

Cash Flow (\$/share): Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

Current Ratio: The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

Debt/Capital Ratio: Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

Net Margin: Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every \$1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

Return on Equity: Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every \$1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

Sales/Assets Ratio: The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated \$2.50 in sales for every \$1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

Historical EPS Growth (3-5 Years): This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

Projected EPS Growth (F1/F0): This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

Current Cash Flow Growth: It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

Historical Cash Flow Growth (3-5 Years): This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

Projected Sales Growth (F1/F0): This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

EPS F1 Estimate 1-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is \$1.10 now versus \$1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from \$1.00 to 90 cents, that would be a 10% downward revision.

EPS F1 Estimate 4-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

EPS F1 Estimate 12-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks.

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

EPS Q1 Estimate Monthly Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks.

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.