

Corning Incorporated (GLW)

\$20.78 (As of 04/24/20)

Price Target (6-12 Months): **\$18.00**

Long Term: 6-12 Months	Zacks Recor (Since: 03/22/2	Underperform	
Short Term: 1-3 Months	Prior Recomm Zacks Rank:	endation: Neutra (1-5)	4-Sell
	Zacks Style Scores:		VGM:D
	Value: C	Growth: D	Momentum: D

Summary

Corning faces price erosion at the rate of 1-2% per quarter in the Display Technologies segment. We expect prices to continue exerting pressure on margins in spite of improving demand/supply situation. The company is seeing overall market weakness in its Optical Communications unit due to customers' project spending decisions, primarily in carrier networks. In Optical Communications, Corning expects first-quarter 2020 sales to be down nearly 25% year over year. Expensive manufacturing technologies for sapphire substrates and high wastes due to manufacturing inefficiencies have dented the top line. With respect to the TV market in particular, the concentration of market share among a few large players is a concern. However, it aims to move forward in the value chain beyond glass and tap the immense potential of the automotive market.

Data Overview

Last EPS Surprise

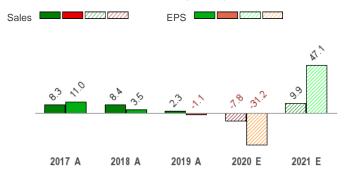
52 Week High-Low	\$34.26 - \$17.44
20 Day Average Volume (sh)	5,558,334
Market Cap	\$15.8 B
YTD Price Change	-28.6%
Beta	1.18
Dividend / Div Yld	\$0.88 / 4.2%
Industry	Communication - Components
Zacks Industry Rank	Top 14% (36 out of 252)

Last Sales Surprise	6.4%
EPS F1 Est- 4 week change	-21.3%
Expected Report Date	04/28/2020
Earnings ESP	0.3%
P/E TTM	11.9
P/E F1	17.2
PEG F1	1.9
P/S TTM	1.4

Price, Consensus & Surprise



Sales and EPS Growth Rates (Y/Y %)



Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	2,735 E	2,887 E	3,099 E	3,135 E	11,812 E
2020	2,486 E	2,598 E	2,890 E	2,968 E	10,746 E
2019	2,850 A	2,986 A	2,969 A	2,851 A	11,656 A

EPS Estimates

Q1	Q2	Q3	Q4	Annual*
\$0.37 E	\$0.42 E	\$0.48 E	\$0.59 E	\$1.78 E
\$0.17 E	\$0.19 E	\$0.37 E	\$0.50 E	\$1.21 E
\$0.40 A	\$0.45 A	\$0.44 A	\$0.46 A	\$1.76 A
	\$0.17 E	\$0.37 E \$0.42 E \$0.17 E \$0.19 E	\$0.37 E \$0.42 E \$0.48 E \$0.17 E \$0.19 E \$0.37 E	\$0.37 E \$0.42 E \$0.48 E \$0.59 E \$0.17 E \$0.19 E \$0.37 E \$0.50 E

*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 04/24/2020. The reports text is as of 04/27/2020.

4.6%

Overview

New York-based Corning Incorporated started out as a glass business that was reincorporated in 1936. The company has since developed its glass technologies to produce advanced glass substrates that are used in a large number of applications across multiple markets. Currently, Corning reports results under five operating segments.

The **Display Technologies** segment (28.6% of total sales in fourth-quarter 2019) includes glass substrates that are commonly found in liquid crystal display (LCD) TVs, notebooks and flat-panel desktop PC monitors. The company's specialty, active-matrix substrates improve the brightness and sharpness of images.

The company's **Optical Communications** (32.5%) products may be categorized into two. The first category comprises cables. Products are typically sold to its own subsidiaries, which then distribute to end users. The second category is hardware and equipment, which comprises optical and copper connectivity products.

The **Environment Technologies** (13.4%) segment makes ceramic substrates required for mobile and stationary pollution and emission control systems. The primary users of Corning's products are automotive and diesel engine manufacturers.

Specialty Materials (16.3%) include different formulations for glass, glass ceramics and fluoride crystals that render special properties to each separate substrate, making it suitable for specific industrial and commercial use.

EPS Hist. and Est.

1.8

1.6

1.4

1.2

1

0.8

0.6

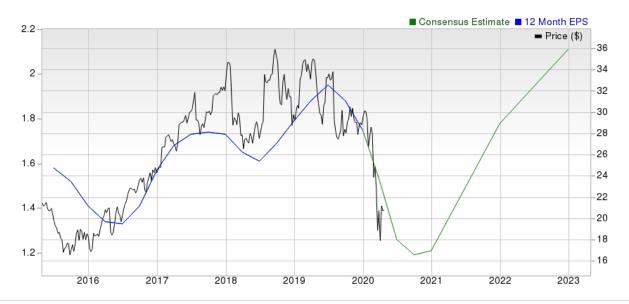
0.4

0.2

2015 2016 2017 2018 2019 2020 2021



Life Sciences (9.2%) segment products are sold under the Corning, Costar and Pyrex brands primarily for laboratory equipment, such as microplate products, coated slides, filter plates for genomics sample preparation, plastic cell culture dishes, flasks, cryogenic vials, roller bottles, mass cell culture products, liquid handling instruments, Pyrex glass beakers, serological pipettes, centrifuge tubes and laboratory filtration products.



Reasons To Sell:

▼ A lot of the optimism around Corning's shares has been driven by its Gorilla Glass (GG) formulation. GG is an extremely tough, flexible, scratch resistant, environmentally friendly glass formulation meant for use as a protective layer (around .5 to 2 mm thick) over mobile phones, tablets, notebooks and the like. The product has been designed into numerous consumer devices, including cell phones, tablets and touch notebooks. While this gives it a very broad addressable market, nearly all of this market is currently in a slow growth phase. Therefore, the core end markets are under a lot of pressure. Although Corning continues to innovate with its Vibrant Corning Gorilla Glass, the impact of these efforts on the bottom line remains unclear as of now.

Increasing cost of sales and perennial price erosion in the Display Technologies unit remain major headwinds for this specialty glass maker.

- ▼ The company faces price erosion at the rate of 1-2% per quarter in the Display Technologies business. Therefore, we expect prices to remain a drag on margins, despite an improving demand/supply situation. Although management believes that 1-2% erosion per quarter could be tackled through cost containment, we assume there would be a limit to cost control.
- ▼ End market diversification is limited at present, with the display and optical segments accounting for more than two-third of total revenues and around half the business coming from display markets. Since the Display Technologies and Specialty Materials segments are largely dependent on consumer spending, particularly on LCD TVs and mobile PCs, this further narrows down the market. Although the company is expected to benefit from massive growth in China, Chinese panel makers with whom Corning has limited relationship are entering the market. Building a significant position in China in the current environment could be a challenge, despite management's all-out efforts. Also, while GG is being met with enthusiasm, its growing contribution to revenues will increase the dependence on display markets. Another concern with respect to the display market in general and the TV market in particular is the concentration of market share in the hands of a few large players. The loss of a single customer or its decision to cut orders would have significant impact on Corning's results.
- ▼ There is growing interest in sapphire substrates that could replace Corning's GG. Sapphire substrates are far more scratch resistant than GG and therefore less likely to break. However, it is heavier and transmits less light, so its use is relatively limited (camera lens, thumb-print scanner, high end watch covers and in a select few smartphone screens). Current manufacturing technologies are also more expensive and wasteful, but the situation could improve somewhat with volumes. Another competing technology that is a cause of concern is plastic OLED. Plastic brings with itself flexibility and practically removes all chances of breaking. However, manufacturing inefficiencies remain. Although Corning is working on glass improvements, these aren't likely to affect revenues soon while evolving technologies remain a constant threat.

Risks

- Through 2023, Corning expects to deliver 6-8% compound annual sales growth and 12-15% compound annual earnings per share growth while investing \$10 billion to \$12 billion in RD&E, capital, and mergers and acquisitions. It also plans to expand operating margin and ROIC, and deliver \$8 billion to \$10 billion to shareholders, including annual dividend per share increase of at least 10%. To deliver its goals, the company expects to add an incremental \$3 billion to \$4 billion in annual sales and improve profitability by the end of 2023. The company is extending performance under its 2020-2023 Strategy & Growth Framework. It is focusing on its portfolio and utilizing financial strength to enhance shareholder returns. The company's capabilities are becoming increasingly vital to diverse industries, and multiple opportunities support leadership across all of its market-access platforms.
- Multiple factors should drive Corning's fiber optic solutions business over the next several years, primarily the increasing use of mobile devices that require efficient data transfer and efficient networking systems. Supporting this trend is the proliferation of clouds, which are now resulting in increased storage and even computing on a virtual plane. Since both consumers and enterprises are using the network more, there is tremendous demand for quality networking. Also, data consumption patterns are changing. For instance, there is a growing propensity to consume video content thus creating the need for faster data transfer. Since optical networks are more efficient and most of the existing networks are copper-based, the demand for optical solutions is particularly strong. Corning has several products focused on the datacenter with a portfolio consisting of optical fiber, hardware, cable and connectors that helps it to create optical solutions to meet varying customer needs.
- Corning is a leading innovator in the glass substrate industry. The company has been developing formulations that are not only suitable for imparting superior picture quality, but also taking care of their effects on the environment. Corning's generation 10 substrates use the proprietary EAGLE XG formulation, which serves both these purposes. Corning was the first glass substrate developer with the generation 10 capability. A higher generation substrate is a larger-sized substrate, which enables panel makers to reduce manufacturing costs since more panels can be built from each substrate. For example, a panel maker can make fifteen 42-inch panels from a generation 10 substrate, compared to eight 42-inch panels from a generation 5. However, the cost per square inch is more or less optimized at generation 8, unless panel sizes increase. Therefore, the generation 10 capability lowers cost for panel sizes of 65 inches or more and will simply help volumes but not provide any additional cost advantage for smaller-sized panels. Either way, Corning's capability positions it to better serve the secular increase in demand for LCD panels. The fact that LCD TVs of 45 inches or larger have been the fastest-growing segment in recent times is also a positive. This will drive demand for the larger-size panels where Corning leads the market. The company's fusion technology reduces glass thickness, enabling panel manufacturers to do away with thinning costs that are usually necessary for making slimmer, lighter and more power efficient consumer devices. In addition to these advantages, the substrate composition makes it particularly eco-friendly and thus more easily acceptable. Subsequently, the company introduced Lotus Glass and Willow Glass. The company's Iris glass also presents significant growth opportunity. We believe that the product portfolio strength along with moderating price decline bodes well for Corning in the long term.
- In order to aid growth, Corning is successfully leveraging the automotive market to disrupt the 6 billion square-foot auto glazing market based on annual consumption. Corning announced a joint venture with Saint-Goban Sekurit to develop, manufacture and sell lightweight automotive glazing solutions. Per this JV, the company will continue to produce and market Gorilla Glass and other glazers, retaining 100% ownership of the glass business. This venture allows the company to move forward in the value chain beyond glass to manufacture and sell glazing solutions with a leading producer. This also provides a low-cost path for Corning to scale Gorilla Glass glazing solutions worldwide.
- As of Dec 31, 2019, the company had \$2,434 million in cash and equivalents with \$7,729 million of long-term debt compared with the respective tallies of \$2,355 million and \$5,994 million a year ago. Corning currently has a debt-to-capital ratio of 37.3% compared with 2.5% of the sub-industry. It has an interest coverage ratio of 6.4 in relative to 2.0 for the sub-industry. This shows that the company is more likely to clear its debt. Corning has a dividend yield of 4.2% compared with 1.2% of the sub-industry. It has a dividend payout ratio of 45.7% compared with 24.1% of the sub-industry. The ratio has increased steadily over the past five years, indicating that the company is sharing more of its earnings with stockholders. It is to be seen whether Corning can maintain the momentum in the coming days despite disruptions caused by COVID-19 pandemic.

Last Earnings Report

Corning Q4 Earnings & Revenues Top Estimates, Fall Y/Y

Corning reported decent fourth-quarter 2019 results, wherein the top line and the bottom line surpassed the respective Zacks Consensus Estimate. However, revenues and earnings decreased on a year-over-year basis.

In 2019, Corning successfully delivered on its 2016-2019 Strategy and Capital Allocation Framework goals. It returned more than \$12.5 billion to shareholders over four years, including a 67% increase in dividends per share, while investing to advance longer-term growth initiatives.

Quarter Ending	12/2019
Report Date	Jan 29, 2020
Sales Surprise	6.37%
EPS Surprise	4.55%
Quarterly EPS	0.46
Annual EPS (TTM)	1.75

Net Income

On a GAAP basis, net income for the December quarter declined to \$32 million or 1 cent per share from \$292 million or 32 cents per share in the year-ago quarter, primarily due to lower operating income and equity in losses of affiliated companies. For 2019, net income was \$960 million or \$1.07 per share compared with \$1,066 million or \$1.13 per share in 2018.

Quarterly core net income came in at \$406 million or 46 cents per share compared with \$539 million or 59 cents per share in the prior-year quarter. The bottom line, however, beat the Zacks Consensus Estimate by 2 cents.

Revenues

Fourth-quarter GAAP net sales were down 7.2% year over year to \$2,817 million. This reflects the material impact of changing market and customer dynamics in Optical Communications and Display Technologies business segments. For 2019, GAAP net sales were up 1.9% year over year to \$11,503 million.

Quarterly core sales decreased to \$2,851 million from \$3,081 million recorded in the year-ago quarter. The top line, however, surpassed the consensus estimate of \$2,680 million.

Quarterly Segment Results

Net sales from the **Optical Communications** segment, which accounts for the lion's share of total revenues, declined 22.6% year over year to \$903 million reflecting overall market weakness due to customers' project spending decisions, primarily in carrier networks. The segment's net income was \$62 million compared with \$165 million in the prior-year quarter, impacted by lower volume and reduced production to decrease inventory.

The company expects full-year 2020 sales to decline by 5-10% as the lower level of sales experienced in the second half of 2019 continues throughout the first half of 2020. It expects first-quarter 2020 sales to be down nearly 25% year over year, implying strong project spending in first-quarter 2019. It anticipates year-over-year growth in sales and profit to resume in the second half of 2020 driven by projects for 5G, fiber-to-the home and hyperscale data center deployments.

Net sales from **Display Technologies** were \$795 million compared with \$899 million in the year-earlier quarter due to lower glass volume and prices. For 2020, the company anticipates its display glass volume to grow by a mid-single digit percentage, similar to the mid-single digit growth expected in the display glass market. It expects glass price declines to remain moderate, down mid-single digits for the full year. The segment's net income was \$180 million compared with \$240 million in the prior-year quarter.

Specialty Materials' net sales were up 13.5% to \$453 million, supported by innovations and strong demand for premium glasses. The company expects high-single digit year-over-year sales growth in 2020. The segment's net income was \$94 million compared with \$87 million in the prior-year quarter.

Environmental Technologies' net sales increased 17.2% to \$374 million, primarily driven by gasoline particulate filter (GPF) adoption. The segment's net income was \$64 million compared with \$42 million in the prior-year quarter. On a year-over-year basis, management expects sales to increase by a mid-single digit percentage in both first-quarter and full-year 2020.

Net sales from **Life Sciences** were up 7.6% to \$256 million, as the business continued to outpace market growth. The segment's net income was \$38 million compared with \$29 million in the prior-year quarter. On a year-over-year basis, sales are expected to increase by a mid-single digit percentage in both first-quarter and full-year 2020.

Other Details

Quarterly cost of sales increased 7.1% year over year to \$1,963 million. Gross profit declined to \$854 million from \$1,202 million due to lower revenues and higher cost of sales. Core gross profit was \$1,054 million compared with \$1,297 million recorded in the prior-year quarter, with respective margin of 37% and 42%.

Cash Flow & Liquidity

In 2019, Corning generated \$2,031 million of net cash from operating activities compared with \$2,919 million in 2018. As of Dec 31, 2019, the specialty glass maker had \$2,434 million in cash and equivalents with \$7,729 million of long-term debt compared with the respective tallies of \$2,355 million and \$5,994 million a year ago.

Going Forward

While sales growth in 2019 did not meet long-term targets, the company outperformed the underlying markets and expects to build momentum

throughout 2020. It remains confident in its 2020-2023 Strategy & Growth Framework goals. Through 2023, Corning expects to deliver 6-8% compound annual sales growth and 12-15% compound annual earnings per share growth while investing \$10 billion to \$12 billion in RD&E, capital, and mergers and acquisitions. It also plans to expand operating margin and ROIC, and deliver \$8 billion to \$10 billion to shareholders, including annual dividend per share increase of at least 10%. To deliver its goals, the company expects to add an incremental \$3 billion to \$4 billion in annual sales and improve profitability by the end of 2023.

Recent News

On Apr 8, 2020, Corning announced that it is reorganizing its operating structure after extensive analysis and leadership review. Designed to unlock opportunities for valuable synergies, the new structure aligns executive management and business teams around five Market-Access Platforms (MAPs) — Mobile Consumer Electronics, Optical Communications, Automotive, Life Sciences, and Display. Within each MAP, Corning harnesses a combination of three core capabilities as well as four manufacturing and engineering platforms to bring value to customers. In addition, management has created a new leadership position that will drive operational excellence. Eric Musser, a 34-year Corning veteran, has been appointed to the expanded role of president and chief operating officer (COO) with immediate effect. Eric will continue to oversee Corning's international regions as well as global manufacturing and supply management functions. The MAP organizations will report to Eric in his role as COO.

On Feb 20, Corning announced that it is working with Qualcomm Technologies — a subsidiary of Qualcomm Incorporated — to develop 5G mmWave infrastructure systems for enterprises and public venues. The 5G systems are designed to combine Qualcomm Technologies' 5G and mmWave technology with Corning's small-cell expertise to deliver affordable and easy-to-install 5G-ready networks indoors. The relationship will enable Corning to implement new functionality around concurrent beamforming, advanced scheduling and other features necessary to support the characteristics of indoor environments.

On Jan 7, Corning announced that it has collaborated with LG Electronics Vehicle Component Solutions to industrialize its ColdForm Technology. By working together, the companies aim to bring more economical and high-quality curved display modules to the automotive market. Corning's ColdForm Technology provides a cost-effective processing solution compared with conventional hot-formed methods while sustaining exceptional optical performance and its signature durability with AutoGrade Gorilla Glass. The company also announced that it is working with Visteon, a global leader in automotive cockpit electronics technology including digital multi-display modules, to commercialize its ColdForm Technology.

Valuation

Corning shares are down 38.4% over the trailing 12-month period. Stocks in the Zacks sub-industry are down 23.5% over the past year, but stocks in the Zacks Computer and Technology sector are up 1.2% in the same time frame.

The S&P 500 Index is down 4.2% in the past year.

The stock is currently trading at 1.48X trailing 12-month book value, which compares to 2.70X for the Zacks sub-industry, 4.47X for the Zacks sector and 3.76X for the S&P 500 Index.

Over the past five years, the stock has traded as high as 2.51X and as low as 1.04X, with a 5-year median of 1.72X. Our Underperform recommendation indicates that the stock will perform worse than the market. Our \$18 price target reflects 12.16X trailing 12-month book value.

The table below shows summary valuation data for GLW

Valuation Multiples - GLW						
		Stock	Sub-Industry	Sector	S&P 500	
	Current	1.48	2.7	4.47	3.76	
P/B TTM	5-Year High	2.51	3.5	5.38	4.55	
	5-Year Low	1.04	1.03	3.16	2.84	
	5-Year Median	1.72	2.41	4.29	3.64	
	Current	12.04	23.1	21.85	19.83	
P/E F12M	5-Year High	20.04	32.75	21.92	19.83	
	5-Year Low	10.62	14.43	16.71	15.19	
	5-Year Median	15.47	21.22	19.22	17.45	
	Current	1.35	2.57	5.09	4.79	
P/S F12M	5-Year High	2.88	2.93	5.09	4.79	
	5-Year Low	1.24	1.54	2.32	2.54	
	5-Year Median	2.25	2.09	3.09	3.01	

As of 04/24/2020

Industry Analysis Zacks Industry Rank: Top 14% (36 out of 252)

■ Industry Price 75 – 🕳 Industry -36 34 70 32 65 30 28 60 26 -24 55 -22 50 20 -18 45 -16 2020 2016 2017 2018 2019

Top Peers

Company (Ticker)	Rec R	ank
Spirent Communications PLC (SPMYY) o	utperform	1
Arista Networks, Inc. (ANET)	Neutral	3
Altice USA, Inc. (ATUS)	Neutral	3
Harmonic Inc. (HLIT)	Neutral	3
Knowles Corporation (KN)	Neutral	3
Plantronics, Inc. (PLT)	Neutral	2
TESSCO Technologies Incorporated (TESS)	Neutral	4
Viavi Solutions Inc. (VIAV)	Neutral	3

Industry Comparison Industry: Communication - Components			Industry Peers			
	GLW	X Industry	S&P 500	ANET	ATUS	PL1
Zacks Recommendation (Long Term)	Underperform	-	-	Neutral	Neutral	Neutra
Zacks Rank (Short Term)	4	-	-	3	3	2
VGM Score	D	-	-	С	С	С
Market Cap	15.85 B	128.69 M	19.57 B	16.40 B	16.46 B	499.10 N
# of Analysts	5	3	14	11	6	4
Dividend Yield	4.23%	0.00%	2.2%	0.00%	0.00%	4.80%
Value Score	C	-	-	D	С	А
Cash/Price	0.15	0.16	0.05	0.17	0.04	0.37
EV/EBITDA	7.97	7.07	11.66	15.49	9.84	18.86
PEG Ratio	1.96	2.24	2.27	1.71	NA	N/
Price/Book (P/B)	1.49	2.04	2.60	5.72	7.28	0.85
Price/Cash Flow (P/CF)	5.19	10.67	10.50	22.72	6.14	1.37
P/E (F1)	17.68	26.45	18.25	26.45	38.45	7.16
Price/Sales (P/S)	1.38	1.34	2.02	7.10	1.69	0.28
Earnings Yield	5.82%	2.39%	5.35%	3.78%	2.59%	14.00%
Debt/Equity	0.72	0.02	0.72	0.03	10.76	2.76
Cash Flow (\$/share)	4.01	0.36	7.01	9.54	4.27	9.12
Growth Score	D	-	-	В	С	F
Hist. EPS Growth (3-5 yrs)	5.91%	10.76%	10.92%	51.02%	NA	10.76%
Proj. EPS Growth (F1/F0)	-31.25%	-9.13%	-5.06%	-15.77%	224.60%	-40.24%
Curr. Cash Flow Growth	3.88%	3.88%	5.92%	22.40%	6.97%	219.80%
Hist. Cash Flow Growth (3-5 yrs)	-1.86%	12.83%	8.55%	57.99%	NA	24.06%
Current Ratio	2.12	2.56	1.23	5.81	0.70	1.42
Debt/Capital	37.29%	2.46%	43.90%	2.79%	91.50%	73.37%
Net Margin	8.35%	1.42%	11.32%	37.20%	1.42%	-9.69%
Return on Equity	14.29%	6.86%	16.60%	27.00%	13.32%	19.10%
Sales/Assets	0.41	0.73	0.55	0.63	0.29	0.57
Proj. Sales Growth (F1/F0)	-7.81%	0.00%	-0.78%	-2.06%	2.83%	-11.65%
Momentum Score	D	-	-	В	F	F
Daily Price Chg	3.74%	0.03%	1.38%	3.62%	1.71%	6.38%
1 Week Price Chg	-2.17%	0.00%	0.42%	0.05%	5.89%	-3.83%
4 Week Price Chg	-4.72%	4.30%	5.63%	8.10%	10.68%	22.31%
12 Week Price Chg	-24.95%	-16.91%	-20.44%	-6.44%	-4.17%	-57.38%
52 Week Price Chg	-38.08%	-30.00%	-13.44%	-31.84%	12.54%	-75.55%
20 Day Average Volume	5,558,334	47,666	2,802,273	767,399	5,314,056	1,325,861
(F1) EPS Est 1 week change	-10.88%	0.00%	-0.10%	0.00%	-5.98%	0.00%
(F1) EPS Est 4 week change	-21.32%	-0.50%	-6.64%	-0.99%	-8.71%	0.00%
(F1) EPS Est 12 week change	-34.17%	-27.53%	-11.78%	-8.58%	-21.39%	-26.73%

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.

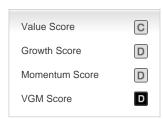
Zacks Rank

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.



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.