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Mar 05, 2020

Teradyne Inc. (TER)

$62.47 (As of 03/04/20)

Price Target (6-12 Months): **$66.00**

Long Term: 6-12 Months	**Zacks Recommendation:** (Since: 03/02/20) Prior Recommendation: Outperform	**Neutral**
Short Term: 1-3 Months	**Zacks Rank:** (1-5)	**3-Hold**
	Zacks Style Scores:	VGM:B
	Value: C | Growth: C	Momentum: A

Summary

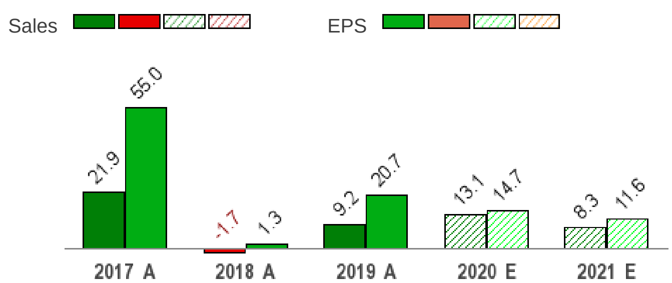
Teradyne's HDD business due to a slowdown in the PC market poses a major concern. Also, weakness in the mobility test market remains a headwind. However, Teradyne is driven by strength in the semiconductor test and LitePoint wireless shipments. It continues to benefit from its growing memory market exposure, robust Test demand and strong product lineup. The company's lean cost structure and strong balance sheet remain positives. Additionally, the management is optimistic about the Universal Robots acquisition and continuous design win momentum. We believe that the company has significant growth opportunities in the high-growth wireless test market in the long-haul. Notably, the stock has outperformed the industry it belongs to over a year.

Price, Consensus & Surprise

Data Overview

52 Week High-Low	**$81.57 - $38.00**
20 Day Average Volume (sh)	**2,273,984**
Market Cap	**$10.4 B**
YTD Price Change	**-8.4%**
Beta	**1.55**
Dividend / Div Yld	**$0.40 / 0.6%**
Industry	**Electronics - Testing Equipment**
Zacks Industry Rank	**Top 31% (78 out of 255)**
Last EPS Surprise	**11.4%**
Last Sales Surprise	**6.4%**
EPS F1 Est- 4 week change	**0.0%**
Expected Report Date	**04/28/2020**
Earnings ESP	**0.0%**
P/E TTM	**21.9**
P/E F1	**19.1**
PEG F1	**1.9**
P/S TTM	**4.5**

Sales and EPS Growth Rates (Y/Y %)



Sales Estimates (millions of $)

	Q1	Q2	Q3	Q4	Annual*
2021	679 E	765 E	702 E	658 E	2,810 E
2020	692 E	700 E	609 E	594 E	2,595 E
2019	494 A	564 A	582 A	655 A	2,295 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	$0.89 E	$1.08 E	$0.94 E	$0.87 E	$3.66 E
2020	$0.92 E	$0.93 E	$0.75 E	$0.71 E	$3.28 E
2019	$0.54 A	$0.66 A	$0.77 A	$0.88 A	$2.86 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 03/04/2020. The reports text is as of 03/05/2020.

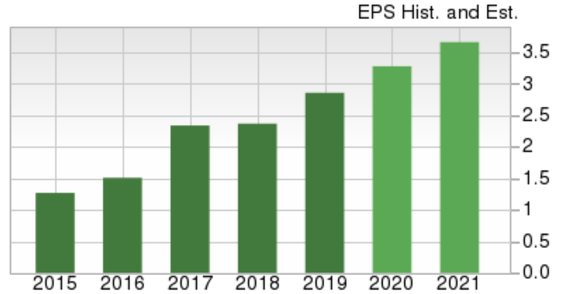
Overview

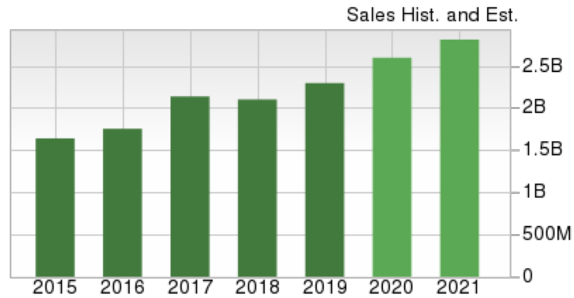
Headquartered in North Reading, MA, Teradyne Inc. is a leading provider of automated test equipment. The company is primarily focused on the semiconductor test market, which generates the bulk of its revenues. It also provides specialized system testing equipment for specific end markets.

The semiconductor test product line primarily consists of the FLEX platform (including the IG-XL software operating system enabling single or simultaneous testing of semiconductor devices), the J750 testing system based on the IG-XL software (for very high-volume testing, as required for microprocessors) the Magnum test platform (enabling testing of memory devices produced in very large quantities) and the ETS platform (focused on analog/mixed signal discrete devices that usually have a lower pin count for testing through the proprietary SmartPin technology). Additionally, the company also offers a broad range of services across the world that helps in the deployment and functioning of its testing systems.

Customers primarily consist of semiconductor manufacturers, including integrated device manufacturers (IDMs) or foundries, as well as outsourced assembly and test subcontractors (OSATs).

The company reports revenues mainly under four segments. These segments are semiconductor Test, Industrial Automation, System Test and Wireless Test business.





For 2019, approximately 67% of revenues came from semiconductor testing platforms, 13% from Industrial Automation, 13% from the System Test business and the remaining 7% from the Wireless Test business.
The company has leveraged its expertise in semiconductor testing systems to expand into system testing for military/aerospace instrumentation, hard disk drive (including in-circuit test and x-ray inspection), printed circuit boards and automotive system diagnosis.

Teradyne has a large number of competitors, given its comprensive product portfolio.

Reasons To Buy:

> A recovery in the core semiconductor business, long-term opportunities in the wireless test market, growing memory market exposure, strong product lineup, and lean cost structure are positives.

- A number of factors are expected to drive the **core semiconductor test business**, the most important of which is the growing demand for mobile devices. Teradyne is well positioned at leading players, which should help. Teradyne's strong portfolio and increased production complexities related to CSP will continue to generate some share gains as semiconductors start entering new applications related to the Internet of Things (IoT) market. Analog companies in general are expected to step up production, so demand for testing products should also pick up.

- The other market segment offering significant growth opportunity is **memory**. While the opportunity is relatively smaller than SoC test, increased complexities related to interface speeds in both NAND and DRAM devices are driving demand for testing devices. The company has been making steady gains here. Management expects Memory Test Market to grown on the back of strong demand in memory test, particularly with respect to new ramps. Teradyne's main advantage is that its products are scalable and the frequency range offered enables very high-speed testing that can be scaled up. Memory manufacturers are likely to grow much faster than others this year, since they are seeing steadier demand, driven by the growing demand for consumer electronic goods incorporating memory chips. Teradyne is clearly benefiting from this trend.

- The LitePoint acquisition expanded Teradyne's presence in the fast-growing **wireless testing market.** LitePoint opened up opportunities in higher-growth markets such as smartphones and tablets that the company did not serve earlier. This acquisition was particularly positive because it positioned Teradyne with solutions for next generation wireless networking and helped the company expand its footprint in Asia. Newer customers in China and Korea will generate growth in this segment while new products will expand the TAM for TER. Furthermore, LTE, LTE Advanced and 802.11ac adoption is expected to accelerate; and this combined with new standards like NFC testing will provide opportunities for LitePoint. Further, a proliferation of reliable, high-bandwidth connections in vehicles over the next five years will be another driver of test intensity as quality and reliability of these connections will be dominant. The emerging 60 gigahertz band applications in Wi-Fi and automotive radar will expand the need for tester instruments, thereby increasing Teradyne's market share at both Semi Test and LitePoint.

Reasons To Sell:

- The **HDD business remains sluggish** due to the weakness in the computing market, which is the primary consumer of HDDs. Teradyne supplies products to both the two big HDD makers, Western Digital and Seagate. Both these companies expect moderate increase in HDD shipments this year, which will therefore be largely satisfied with existing capacity. While SSD demand is also eating into HDD numbers, related capacity has not really taken off yet. The company is securing a growing number of customer wins in SSD, so this is an offsetting factor.

The weakness in the HDD business and wireless test business remains concerns. Also, excess capacity and pricing pressure are headwinds.

- The **wireless test business** (LitePoint) remains weak and has been declining over a number of years. The weak demand in the smartphone and tablet markets as well as a slowdown of technology adoption is offsetting the positive impact of increased complexities to a certain extent . Also, there is a danger of oversupply in the particular market segment in which LitePoint plays. Though the management expects the weakness at these large customers to be offset by strength at others in China and Korea, it does not expect this to happen any time soon. The problem of oversupply remains but management is trying to grow the product portfolio to increase the TAM.

- The **system test business** is very choppy, with high double-digit bookings increases often followed by high double-digit declines. Although revenues are relatively more stable, the typically high values of systems test equipment leads to lumpiness if even a single customer defers a shipment or pulls it forward. The business is therefore hard to track and can only be gauged through general performance in the sector, new product adoption and market share gains/losses.

Last Earnings Report

Teradyne Surpasses Q4 Earnings & Revenue Estimates

Quarter Ending	12/2019
Report Date	Jan 22, 2020
Sales Surprise	6.42%
EPS Surprise	11.39%
Quarterly EPS	0.88
Annual EPS (TTM)	2.85

Teradyne Inc. reported fourth-quarter 2019 earnings of 88 cents per share, surpassing the Zacks Consensus Estimate by 9 cents. The figure also increased 39.7% year over year.

Moreover, revenues of $654.7 million increased 26% year over year. Also, the figure surpassed the Zacks Consensus Estimate by 6.4% and came ahead of the guided range of $590-$630 million.

Inside the Headlines

Approximately 67% of revenues came from semiconductor testing platforms, 13% from Industrial Automation, 13% from the System Test business and the remaining 7% from the Wireless Test business.

The increase in total revenues was driven by higher-than-expected memory and wireless test demand. Continued growth in 5G infrastructure test spending, smartphone complexity growth and share gains in the memory test market aided revenue growth in the quarter.

Also, the Teradyne's Industrial Automation segment witnessed growth in the fourth quarter, partially offset by manufacturing sector headwinds in the United States and Europe.

Margins

Pro-forma gross margin was 58.5%, down 110 basis points (bps) from the prior-year quarter. The decrease was due to favorable product mix.

Total operating expenses (selling and administrative &engineering and development) of $203.9 million increased 16.3% year over year. As a percentage of sales, both selling & administrative expenses and engineering & development costs decreased from the year-ago quarter.

Operating margin came in at 26.2%, up 460 bps from the year-ago quarter.

Balance Sheet

At the end of the fourth quarter, Teradyne's cash and cash equivalents were $773.9 million, higher than $593.9 million in the prior quarter.

During the quarter, the company repurchased $131.2 million of its common stock and paid $15 million as dividends.

Guidance

Management expects first-quarter 2020 revenues in the band of $670-$710 million. Non-GAAP earnings per share from continuing operations are likely to be in the range of 86-96 cents.

Recent News

On **Dec 20, 2019**, Teradyne announced that the UltraFLEX test system will be used in Enflame's Deep Thinking Unit (DTU). Based on a reconfigurable architecture, DTU is optimized for high-performance computing and power efficiency required for major machine learning frameworks.

On **Nov 14, 2019,** Teradyne had completed the acquisition of AutoGuide Mobile Robots, a leading supplier of high-payload autonomous mobile robots.

Valuation

Teradyne shares are up 11.4% in the 6-month period and 56.4% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 1.9% and 7.2% in the 6-month period, respectively. Over the past year, the Zacks sub-industry is up 0.9% and the sector is up 13.9%.

The S&P 500 index is up 0.9% in the 6-month period and 7% in the past year.

The stock is currently trading at 18.66X forward 12-month earnings, which compares to 21.35X for the Zacks sub-industry, 20.17X for the Zacks sector and 17.15X for the S&P 500 index.

Over the past five years, the stock has traded as high as 25.32X and as low as 11.54X, with a 5-year median of 16.81X. Our Neutral recommendation indicates that the stock will perform inline with the market. Our $66 price target reflects 18.9X forward 12-month earnings.

The table below shows summary valuation data for TER

Valuation Multiples - TER

		Stock	Sub-Industry	Sector	S&P 500
P/E F 12M	Current	18.66	21.35	20.17	17.15
	5-Year High	25.32	26.26	22.04	19.35
	5-Year Low	11.54	18.3	16.87	15.18
	5-Year Median	16.81	22.02	19.33	17.44
P/S F12M	Current	3.72	3.65	3.48	3.26
	5-Year High	5.18	4.12	3.58	3.43
	5-Year Low	2	2.63	2.3	2.54
	5-Year Median	3.17	3.52	3.05	3.01
EV/EBITDA TTM	Current	12.88	17.6	11.27	12.38
	5-Year High	19.46	18.66	12.61	12.86
	5-Year Low	4.54	8.52	7.68	8.48
	5-Year Median	7.84	14.54	10.55	10.69

As of 03/04/2020

Industry Analysis **Zacks Industry Rank:** Top 31% (78 out of 255)

Top Peers

Advanced Energy Industries, Inc. **(AEIS)**	Outperform
Lam Research Corporation **(LRCX)**	Outperform
National Instruments Corporation **(NATI)**	Outperform
Seagate Technology PLC **(STX)**	Outperform
Agilent Technologies, Inc. **(A)**	Neutral
Advantest Corp. **(ATEYY)**	Neutral
Keysight Technologies Inc. **(KEYS)**	Neutral
KLA Corporation **(KLAC)**	Neutral

Industry Comparison Industry: Electronics - Testing Equipment

Industry Peers

	TER Neutral	X Industry	S&P 500	ATEYY Neutral	KEYS Neutral	NATI Outperform
VGM Score	B	-	-	A	C	D
Market Cap	10.42 B	9.31 B	22.29 B	9.30 B	19.10 B	5.29 B
# of Analysts	8	6	13	2	5	1
Dividend Yield	0.64%	0.54%	1.97%	1.23%	0.00%	2.57%
Value Score	C	-	-	B	D	D
Cash/Price	0.10	0.05	0.05	0.14	0.09	0.08
EV/EBITDA	15.56	19.12	13.20	12.64	17.52	19.12
PEG Ratio	1.89	1.71	1.94	1.41	2.00	NA
Price/Book (P/B)	7.07	4.51	3.05	4.68	6.11	4.51
Price/Cash Flow (P/CF)	17.05	17.39	12.16	16.53	16.17	21.37
P/E (F1)	18.58	21.66	17.58	21.90	18.20	24.67
Price/Sales (P/S)	4.54	4.04	2.45	3.70	4.35	3.91
Earnings Yield	5.25%	4.62%	5.69%	4.57%	5.49%	4.05%
Debt/Equity	0.03	0.37	0.70	0.03	0.61	0.00
Cash Flow ($/share)	3.66	3.96	7.01	2.90	6.05	1.89
Growth Score	C	-	-	B	C	C
Hist. EPS Growth (3-5 yrs)	21.08%	12.32%	10.85%	86.48%	16.11%	10.36%
Proj. EPS Growth (F1/F0)	14.73%	9.20%	6.26%	-16.09%	14.03%	0.61%
Curr. Cash Flow Growth	9.31%	9.31%	6.03%	169.43%	-28.59%	-0.24%
Hist. Cash Flow Growth (3-5 yrs)	8.94%	9.18%	8.52%	37.88%	15.69%	3.60%
Current Ratio	3.08	1.64	1.23	4.09	3.39	3.09
Debt/Capital	3.00%	26.93%	42.57%	3.26%	37.99%	0.00%
Net Margin	20.88%	14.59%	11.69%	19.39%	15.26%	11.98%
Return on Equity	33.41%	17.53%	16.66%	26.84%	29.65%	14.81%
Sales/Assets	0.85	0.57	0.54	0.90	0.68	0.82
Proj. Sales Growth (F1/F0)	13.09%	6.79%	3.94%	-4.26%	7.46%	4.86%
Momentum Score	A	-	-	A	A	F
Daily Price Chg	6.84%	4.05%	3.75%	4.46%	4.73%	3.11%
1 Week Price Chg	-10.97%	-10.90%	-12.06%	-10.10%	-1.48%	-8.10%
4 Week Price Chg	-12.36%	-8.08%	-7.42%	-8.23%	2.65%	-12.31%
12 Week Price Chg	-4.71%	-5.44%	-4.61%	-3.84%	-5.14%	-3.25%
52 Week Price Chg	56.41%	-1.57%	7.38%	89.23%	14.87%	-11.62%
20 Day Average Volume	2,273,984	1,960,949	2,456,671	3,300	2,097,927	602,591
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	0.00%	0.00%	-3.32%
(F1) EPS Est 4 week change	0.00%	-0.77%	-0.06%	4.53%	2.44%	-3.32%
(F1) EPS Est 12 week change	2.70%	-1.11%	-0.41%	33.13%	2.44%	-2.24%
(Q1) EPS Est Mthly Chg	0.00%	-2.78%	-0.27%	0.00%	5.58%	0.00%

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	C
Growth Score	C
Momentum Score	A
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.

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