

Teradyne Inc. (TER)

\$61.12 (As of 05/19/20)

Price Target (6-12 Months): **\$64.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 03/02/20)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:B

Value: D

Growth: B

Momentum: A

Summary

Teradyne is driven by strength in Semiconductor Test and System Test businesses. 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. However, Teradyne's sluggish HDD business due to a slowdown in the PC market poses a major concern. Further, weakness in the mobility test market remains a concern.

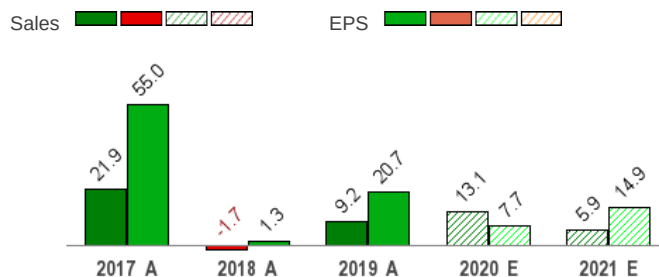
Price, Consensus & Surprise



Data Overview

52 Week High-Low	\$81.57 - \$40.92
20 Day Average Volume (sh)	2,402,820
Market Cap	\$10.1 B
YTD Price Change	-10.4%
Beta	1.36
Dividend / Div Yld	\$0.40 / 0.7%
Industry	Electronics - Testing Equipment
Zacks Industry Rank	Bottom 13% (220 out of 254)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	16.3%
Last Sales Surprise	5.8%
EPS F1 Est- 4 week change	4.1%
Expected Report Date	07/28/2020
Earnings ESP	0.0%
P/E TTM	18.5
P/E F1	19.8
PEG F1	2.0
P/S TTM	4.0

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	666 E	744 E	702 E	660 E	2,748 E
2020	704 A	749 E	594 E	548 E	2,595 E
2019	494 A	564 A	582 A	655 A	2,295 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$0.83 E	\$1.03 E	\$0.96 E	\$0.83 E	\$3.54 E
2020	\$1.00 A	\$1.02 E	\$0.62 E	\$0.52 E	\$3.08 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 05/19/2020. The reports text is as of 05/20/2020.

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.

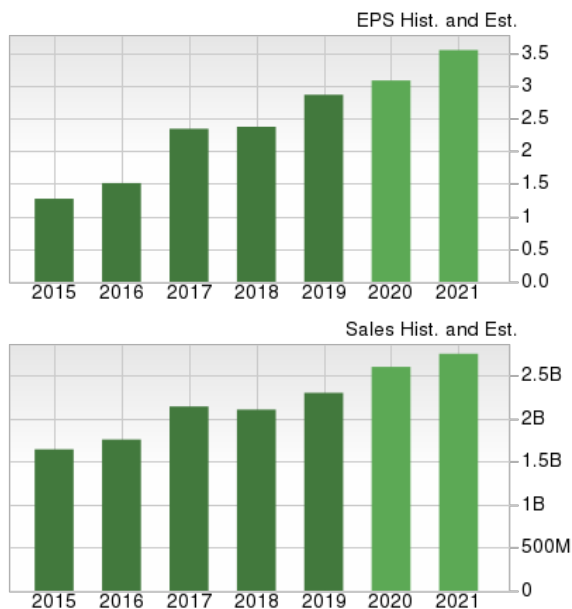
Customers primarily consist of semiconductor manufacturers, including integrated device manufacturers (IDMs) or foundries, as well as outsourced assembly and test subcontractors (OSATs).

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 comprehensive product portfolio.



Reasons To Buy:

- ▲ 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.
- ▲ Teradyne has a solid balance sheet. As of Mar 31, 2020, the company had net cash balance of \$339 million versus \$406 million on Dec 31, 2019. Moreover, debt to total capital of the company was 23% (lower than the industry average of 37.8%) as of Mar 31, 2020, which is quite good.

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.

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 **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.

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

Last Earnings Report

Teradyne Q1 Earnings & Revenues Surpass Estimates

Teradyne Inc. reported first-quarter 2020 earnings of \$1 per share, surpassing the Zacks Consensus Estimate of 86 cents. The figure also increased 85.2% year over year and 13.6% sequentially.

Moreover, revenues of \$704.4 million increased 43% year over year. The figure surpassed the Zacks Consensus Estimate by 5.8% and came within the guided range of \$670-\$710 million.

Inside the Headlines

Approximately 69% of revenues came from semiconductor testing platforms, 17% from the System Test business, 9% from Industrial Automation and the remaining 5% from the Wireless Test business.

The increase in total revenues was driven by strength in Semiconductor Test and System Test businesses. However, headwinds from COVID-19-related impacts on global manufacturing activity impacted the Industrial Automation segment.

Teradyne's Industrial Automation segment declined 9% year over year in the first quarter due to manufacturing sector headwinds on a global basis.

Margins

Pro-forma gross margin was 57.6%, down 60 basis points (bps) from the prior-year quarter. The decrease was due to an unfavorable product mix.

Total operating expenses (selling and administrative & engineering and development) of \$196.5 million increased 9.9% 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 29.3%, up 1,050 bps from the year-ago quarter.

Balance Sheet

At the end of the first quarter, Teradyne's cash and cash equivalents were \$593.5 million, lower than \$773.9 million in the prior quarter.

During the quarter, the company repurchased \$79 million of its common stock and paid \$16.7 million as dividends.

Guidance

Management expects second-quarter 2020 revenues in the band of \$690-\$800 million. Non-GAAP earnings per share from continuing operations are likely to be in the range of 86 cents to \$1.16.

The Zacks Consensus Estimate for second-quarter revenues and earnings per share is pegged at \$617.9 million and 71 cents, respectively.

Quarter Ending	03/2020
Report Date	Apr 21, 2020
Sales Surprise	5.83%
EPS Surprise	16.28%
Quarterly EPS	1.00
Annual EPS (TTM)	3.31

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 down 10.4% in the year-to-date period but up 39.1% over the trailing 12-month period. Stocks in the Zacks sub-industry is down 11.7% but the Zacks Computer & Technology sector is up 1.2% in the year-to-date period. Over the past year, the Zacks sub-industry is up 2.8% and the sector is up 15.1%.

The S&P 500 index is down 8.2% in the year-to-date period but up 3% in the past year.

The stock is currently trading at 18.77X forward 12-month earnings, which compares to 24.11X for the Zacks sub-industry, 23.79X for the Zacks sector and 21.52X 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 \$64 price target reflects 19.4X 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	18.77	24.11	23.79	21.52
	5-Year High	25.32	26.26	23.79	21.52
	5-Year Low	11.54	18.3	16.71	15.23
	5-Year Median	16.81	22.02	19.26	17.49
P/S F12M	Current	3.56	3.63	3.54	3.23
	5-Year High	5.18	4.12	3.59	3.44
	5-Year Low	2	2.63	2.32	2.54
	5-Year Median	3.26	3.52	3.1	3.02
EV/EBITDA TTM	Current	10.99	14.21	11.15	10.37
	5-Year High	19.54	19.06	12.71	12.86
	5-Year Low	4.46	8.83	7.56	8.28
	5-Year Median	8.26	14.93	10.63	10.77

As of 05/19/2020

Industry Analysis Zacks Industry Rank: Bottom 13% (220 out of 254)



Top Peers

Company (Ticker)	Rec	Rank
Advantest Corp. (ATEYY)	Outperform	3
Agilent Technologies, Inc. (A)	Neutral	3
Advanced Energy Industries, Inc. (AEIS)	Neutral	3
Keysight Technologies Inc. (KEYS)	Neutral	2
KLA Corporation (KLAC)	Neutral	3
Lam Research Corporation (LRCX)	Neutral	3
National Instruments Corporation (NATI)	Neutral	5
Seagate Technology PLC (STX)	Neutral	3

Industry Comparison Industry: Electronics - Testing Equipment				Industry Peers		
	TER	X Industry	S&P 500	ATEYY	KEYS	NATI
Zacks Recommendation (Long Term)	Neutral	-	-	Outperform	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	2	5
VGM Score	B	-	-	B	B	B
Market Cap	10.13 B	10.29 B	19.91 B	9.24 B	17.99 B	4.91 B
# of Analysts	8	7	14	2	5	3
Dividend Yield	0.65%	0.56%	2.14%	1.25%	0.00%	2.77%
Value Score	D	-	-	C	C	F
Cash/Price	0.09	0.07	0.07	0.13	0.10	0.12
EV/EBITDA	14.59	16.96	12.09	12.57	16.51	17.03
PEG Ratio	2.11	1.50	2.68	NA	2.24	NA
Price/Book (P/B)	6.53	3.84	2.75	4.65	5.99	3.84
Price/Cash Flow (P/CF)	16.68	16.68	10.68	16.44	15.86	19.86
P/E (F1)	20.65	27.76	19.96	21.54	19.96	31.60
Price/Sales (P/S)	4.04	3.80	2.01	3.68	4.10	3.63
Earnings Yield	5.04%	3.60%	4.83%	4.63%	5.01%	3.16%
Debt/Equity	0.29	0.37	0.76	0.03	0.61	0.00
Cash Flow (\$/share)	3.66	3.96	7.01	2.90	6.05	1.89
Growth Score	B	-	-	A	B	B
Hist. EPS Growth (3-5 yrs)	22.47%	13.12%	10.87%	NA	16.11%	11.96%
Proj. EPS Growth (F1/F0)	7.65%	-14.39%	-10.48%	1.84%	1.91%	-26.99%
Curr. Cash Flow Growth	9.31%	9.31%	5.51%	169.43%	-28.59%	-0.24%
Hist. Cash Flow Growth (3-5 yrs)	3.50%	9.18%	8.55%	37.88%	15.69%	3.60%
Current Ratio	3.31	2.08	1.28	4.09	3.39	3.41
Debt/Capital	22.29%	26.93%	44.46%	3.26%	37.99%	0.00%
Net Margin	21.80%	18.48%	10.59%	19.39%	15.26%	20.09%
Return on Equity	38.16%	17.55%	16.27%	26.84%	29.65%	13.96%
Sales/Assets	0.91	0.57	0.55	0.90	0.68	0.81
Proj. Sales Growth (F1/F0)	13.09%	-5.36%	-2.49%	4.76%	3.05%	-6.39%
Momentum Score	A	-	-	A	A	A
Daily Price Chg	0.77%	0.39%	-1.38%	-1.75%	-0.88%	1.08%
1 Week Price Chg	-12.60%	-5.16%	-4.56%	-3.51%	-5.87%	-4.71%
4 Week Price Chg	0.31%	5.66%	6.08%	5.18%	4.80%	5.47%
12 Week Price Chg	-0.83%	-8.56%	-13.96%	3.13%	2.50%	-8.69%
52 Week Price Chg	39.16%	-0.21%	-7.85%	90.08%	27.39%	-5.81%
20 Day Average Volume	2,402,820	1,776,143	2,586,392	9,053	1,253,465	561,011
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(F1) EPS Est 4 week change	4.06%	-4.57%	-4.62%	-4.53%	0.00%	108.97%
(F1) EPS Est 12 week change	-6.17%	-20.33%	-16.58%	-7.52%	-1.62%	-39.85%
(Q1) EPS Est Mthly Chg	42.33%	-10.10%	-10.10%	NA	0.00%	-46.67%

Zacks Stock Rating System

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

Zacks Recommendation

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

Zacks Rank

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

Zacks Style Scores

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

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

Value Score	D
Growth Score	B
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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