Teradyne, Inc. (TER)

Baird Facts

Please refer to Appendix - Important Disclosures and Analyst Certification.

<table>
<thead>
<tr>
<th>Price ($) (5/21/20):</th>
<th>61.74</th>
<th>Rating:</th>
<th>Outperform</th>
<th>FY Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>52WK H-L ($) :</td>
<td>82 - 41</td>
<td>Suitability:</td>
<td>Average Risk</td>
<td></td>
</tr>
<tr>
<td>Market Cap (mil):</td>
<td>10,706</td>
<td>Price Target ($) :</td>
<td>Q1</td>
<td></td>
</tr>
<tr>
<td>Shares Out (mil):</td>
<td>173.4</td>
<td>L-Term Rev. Gr Rate Est:</td>
<td>0.54A</td>
<td></td>
</tr>
<tr>
<td>Float (mil):</td>
<td>165.6</td>
<td>L-Term EPS Gr Rate Est:</td>
<td>1.00A</td>
<td></td>
</tr>
<tr>
<td>Avg. Daily Vol (mil):</td>
<td>2.44</td>
<td>Debt/Cap:</td>
<td>0.66A</td>
<td></td>
</tr>
<tr>
<td>Dividend ($):</td>
<td>0.40</td>
<td>ROE:</td>
<td>0.72E</td>
<td></td>
</tr>
<tr>
<td>Yield (%):</td>
<td>0.6</td>
<td>L-Term EPS Gr Rate Est:</td>
<td>0.88A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>0.51E</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.84A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.23E</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>3.68E</td>
<td></td>
</tr>
</tbody>
</table>

Headquartered IPO/Founded

<table>
<thead>
<tr>
<th>Management</th>
<th>Dec</th>
<th>2019A</th>
<th>2020E</th>
<th>2021E</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Reading, MA</td>
<td>1960</td>
<td>Revenue (Mil)</td>
<td>2,295.0</td>
<td>2,617.4</td>
</tr>
<tr>
<td>President &amp; CEO</td>
<td>Mark Jagiela</td>
<td>% Growth</td>
<td>9.2%</td>
<td>14.0%</td>
</tr>
<tr>
<td>VP &amp; CFO</td>
<td>Sanjay Mehta</td>
<td>Operating Margin</td>
<td>25.4%</td>
<td>25.6%</td>
</tr>
<tr>
<td>VP, Corporation Relations</td>
<td>Andy Blanchard</td>
<td>EBITDA</td>
<td>700.9</td>
<td>779.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EBITDA Margin</td>
<td>30.5%</td>
<td>29.8%</td>
</tr>
</tbody>
</table>

Company Description

Headquartered in North Reading, MA and founded in 1960, TER is the market leader in high-end SOC testers and (via its LitePoint acquisition) wireless production test solutions. Teradyne also maintains leading positions in Memory test, hard disk storage test as well as mil/aero and circuit board testers. Finally, TER's 2015 acquisition of Universal Robots added the market share leader in the emerging market for collaborative robots.

Revenue Profile

![Revenue by Segment (CY19A)](image)

Sales by Geography (CY19A)

- Source: company reports, Robert W. Baird & Co. estimates

Competition

<table>
<thead>
<tr>
<th>TER Segment</th>
<th>CY20E TAM</th>
<th>Y/Y</th>
<th>Current TER Mkt Share</th>
<th>Key Competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi Test - SOC</td>
<td>$-3.18-$3.4B</td>
<td>~0%</td>
<td>~39%</td>
<td>Advantest (~45%), Cohu (~10%)</td>
</tr>
<tr>
<td>Semi Test - Memory</td>
<td>$-650-$750M</td>
<td>+8-25%</td>
<td>~44%</td>
<td>Advantest (~40%), Unitest</td>
</tr>
<tr>
<td>System Test</td>
<td>$-500M-$1.0B</td>
<td>+5%</td>
<td>&lt;40%</td>
<td>Keysight, Astronics, Test Research, SPEA</td>
</tr>
<tr>
<td>Wireless Test</td>
<td>~$200M+</td>
<td>+10%</td>
<td>&lt;50%</td>
<td>R&amp;S, Anritsu, KEYS, NATI</td>
</tr>
<tr>
<td>Ind. Automation</td>
<td>~$500M+</td>
<td>+5%</td>
<td>50%+</td>
<td>KUKA, ABB, FANUC, Yaskawa, Staubli, Techman</td>
</tr>
</tbody>
</table>

Source: company reports, Robert W. Baird & Co. estimates
Quick Summary

**Outperform-rated.** Strong 1H/20 revenue/profit outlook are being driven by favorable Semi Test positioning (+ share gains) in Mobility, Storage and 5G chip test, combined with impressive supply chain execution. 2H20 visibility is limited, as global COVID impacts on consumers could impact end demand for TER’s Mobility customers, slowing SOC/Memory tester demand. However, accounting for the N6M's Semi Test uncertainty, we continue to believe the longer-cycle Semi Test fundamentals and eventual recovery in Industrial Automation demand make TER an attractive investment.

- **Customer concentration.**
- **Decelerating physical limits of innovation (Moore’s Law).**
- **M&A history reflects mixed success.**
- **Increasing competition.**
- **Cyclical set of equipment-weighted businesses.**

**Risks & Caveats**

- **Wireless Test business positioned for growth, profit contribution as new wireless standards proliferate.**
- **Universal Robots (UR) diversified TER into growth market, adds public equity scarcity value in robotics.**
- **Leadership in semi test; test application dynamics more favorable to growth.**
- **TER’s sales guidance range ($110M) wider than the typical $30-$40M, reflecting supply chain risk.**
- **Secular trends remain in place, end-demand volatility the biggest unknown.**

**Investment Thesis**

- **Leadership in semi test; test application dynamics more favorable to growth.**
- **Universal Robots (UR) diversified TER into growth market, adds public equity scarcity value in robotics. TER’s 2015 UR acquisition immersed TER into the rapidly growing collaborative robot (cobot) market, with the No. 1 market position. TER is balancing UR growth investments with sales/profit contribution near term.**
- **Wireless Test business positioned for growth, profit contribution as new wireless standards proliferate.**
- **Strong balance sheet/FCF.**
- **$70 price target assumes 12.0X CY21E EV/EBITDA, or 19.0X CY21E EPS. Reflects the upper half of TER’s 2017-19 average P/E (12X-22X) and EV/EBITDA (7X-14X) ranges, supported by more diversification / share gains in its Test businesses, consistent/ higher profitability plus potential rebound in IA growth/profit contribution (CY21E). We also calculate $70 as ~17X our CY22E ($4.11), which falls within TER’s prior stated CY22 EPS target of $3.50-$4.25.**

**Risks & Caveats**

- **Cyclical set of equipment-weighted businesses.** TER sales split roughly 80/20 favoring equipment/products over services. Equipment revenues have historically demonstrated more volatility, capital budget sensitivity.
- **Increasing competition.** TER’s estimated aggregate market share (35-40%) is high within its overall ~$4.0-5.0B SAM. We anticipate high investment levels in China semiconductor industry and Industrial Automation (cobots) could invite new competitors.
- **M&A history reflects mixed success.** TER has arguably mixed success with past acquisitions with goodwill write-downs occurring related to both LitePoint and Nexest/EAgle (all related to cyclical downturns in their respective markets).
- **Decelerating physical limits of innovation (Moore’s Law).** TER’s Semi Test segment may encounter a reduced pace of chip innovation, negatively impacting future tester demand if physical limitations hinder application of Moore’s Law.
- **Customer concentration.** TER’s top five customers represented ~27% of sales and TER’s two largest OEM customers (and related supply chain partners), Huawei and Apple, accounted for ~11% and ~10% of 2019 revenue, respectively.
Appendix - Important Disclosures and Analyst Certification

Approved on 22 May 2020 12:51EDT/ Published on 22 May 2020 12:56EDT.

Rating and Price Target History for: Teradyne, Inc. (TER) as of 05-21-2020

1 Robert W. Baird & Co. Incorporated makes a market in the securities of TER.

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Teradyne, Inc.
May 22, 2020

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