

## Public Company Spotlight



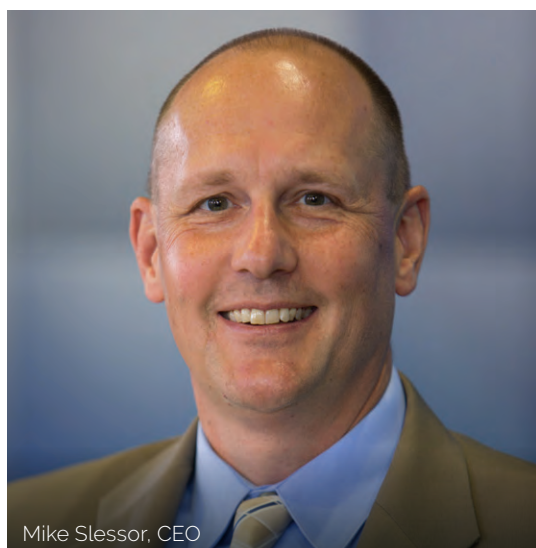
The best performing company in the MTVX last year was, by a wide margin, FormFactor (Nasdaq: FORM) whose share price appreciated nearly 85% over the year, creating \$924 million of shareholder value in the process.

The company is headquartered in Livermore and manufactures semiconductor test and measurement devices including probe cards, analytical probes, metrology systems and thermal subsystems. Semiconductor companies, universities and research institutions use FormFactor's devices to test along the entire integrated circuit life cycle in the foundry & logic, DRAM, flash, display and sensor market segments. Some of FormFactor's largest customers include the likes of Intel, Samsung, SK Hynix, Micron and Taiwan Semiconductor.

A probe card is a device used for the electrical testing of large-scale integrated circuit (LSI) chips. It acts as a custom connector between a chip's electrodes and the LSI testing device, thus newly

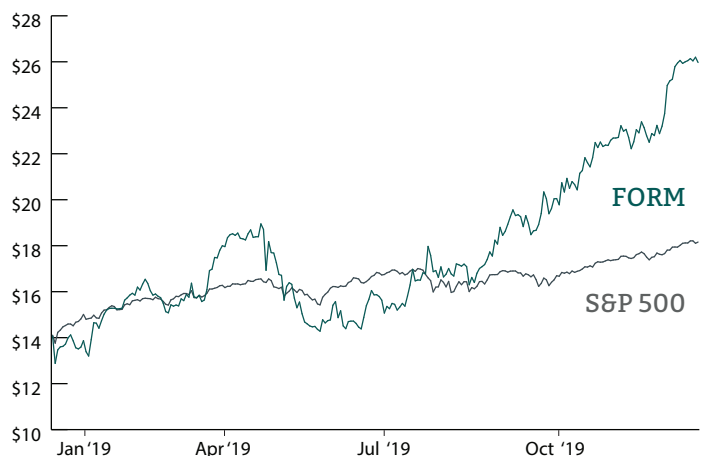
designed chips typically require newly fitted probe cards. It's about a \$1.5 billion market and, according to CEO Mike Slessor, "we lead with 30-40% market share. People commonly associate our business model as one that sells capital equipment, but that's not entirely the case. As Moore's law continues, and as our customers release newer and smaller chip designs, it drives a consumables spend for our probe cards. That's really what has fueled our success over the last couple years."

Although FormFactor was founded in 1993 and very successful in its early years, it hit a rough patch and took a few years to find its footing again. As Mike says, "the company was basically a pure-play DRAM probe card supplier. After the Financial Crisis they had difficulty with scale and profitability, so in 2012 they acquired Micro-Probe, where I was CEO." It was a large and transformative acquisition which allowed FormFactor to strengthen its position in the advanced MEMS probe card market, which currently accounts for over 80% of FormFactor's business. Two years after the acquisition, Mike became CEO of the combined businesses. He led the company to acquire publicly-traded Cascade Microtech in a mobile communications testing play in 2016, and FRT GmbH to enter the 3D surface metrology market in 2019.



Mike Slessor, CEO

### FORM Share Price Performance vs S&P 500



"These acquisitions helped transform our business into a more diversified semiconductor test and measurement market leader with greater scale and market opportunities."

## In FY2019 FormFactor generated over \$589 million in annual revenue.

It is one of the largest private employers in Livermore, employing over 650 people locally and 1,800 across the world. The company recently added Sheri Rhodes, CIO of Workday, to the Board of Directors. We spoke with Mike to get his perspective on the industry.

### 2019 FormFactor Stats

**85% share price**  
Appreciation in 2019

**\$1.5 billion**  
Market capitalization

Total Employees  
**1,800+**

Generated in FY2019  
**\$589M revenue**

### Q&A

**FormFactor acquired Cascade Microtech to go after the 5G market, it was a large acquisition at the time. Why is 5G so important, and how is it going to impact both consumers and the semiconductor industry as a whole?**

If we look back, device connectivity started in PCs, then it went to mobile devices. Well, the next frontier is a whole new class of applications called the Internet-of-Things (IoT). What underpins 5G is the massive speed and latency advancements that it will bring. 5G networks can operate in the 30-60GHz range, whereas 4G operates at just a few GHz. This

will essentially create a high speed real-time wireless link that has the bandwidth to connect almost anything and everything. Think about connecting and coordinating everything — traffic lights, your car, and the cars around you in real time. It will bring an unprecedented level of connectivity to our world.

This is huge for the semiconductor industry as there will be a massive demand to put silicon chips into many different items, and will bring the industry more into the mainstream of life. For a company like FormFactor who is on the test and quality assurance side, it really raises the bar for what we do. For example, 5G is an enabling technology for autonomous vehicles, and those connections will need to work within six standard deviations of certainty. It's going to be a higher bar across the industry, and an increased need for higher quality testing capabilities.

**FormFactor is one of the largest private employers in Livermore. How has being located in this region shaped your business?**

It's been a sweet spot for us in terms of the kind of workforce we're able to attract. Over the hill we have Tracy, Stockton and the Central Valley, but we can also tap into the engineering and tech population that drifts towards San Jose and the Bay Area. It's really nice for our business.

**We're able to grow because of a manufacturing labor pool, but we also have the engineering talent necessary to drive a hardware technology business forward.**