

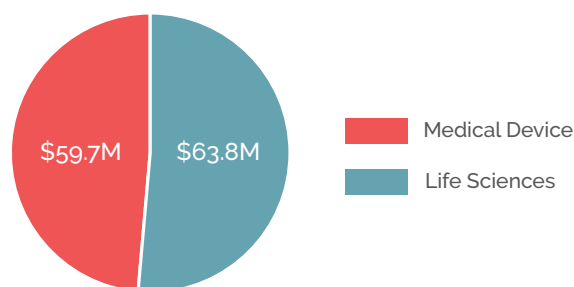
## Life Sciences

More venture capital dollars were invested in life sciences companies in 2019 than in any other sector, representing approximately 37% of total funds raised. The deals were split evenly between early stage and late stage.

The largest deal of 2019 was 10x Genomics' \$35 million Series D1 which was raised in preparation for their September IPO, valuing the company at \$1.3 billion. As of the beginning of January 2020, 10x shares traded publicly at a \$7 billion market cap.

Raydiant Oximetry is an early stage life sciences company that stood out last year. Raydiant was founded by former anesthesiologist Neil Ray in 2016, and has developed a noninvasive fetal oxygen monitor to keep mothers and babies safe during childbirth. Raydiant's device recently received FDA Breakthrough status, and the company is

2019 Capital Raised by Sector



currently preparing for human studies. Tri-Valley Ventures Partner John Murphy had this to say about the company: "Knowing that the baby is getting enough oxygen during childbirth is a holy grail of sorts. Raydiant has created a simple, non-invasive patch that has the potential to save lives, reduce unnecessary C-sections and possibly become a standard monitoring device used on every birth in the developed world."

### Notable Life Sciences deals in 2019

Company	Round	Raised	Valuation	Brief
BioVentrix	Series A1	\$42.6M		Congestive heart failure surgical device
10x Genomics	Series D1	\$35.0M	\$1,280.0M	Single cell genomics platform
Purigen Biosystems	Series B	\$26.4M	\$83.0M	DNA quantification chips
Sandstone Diagnostics	Late Stage	\$4.6M		Male fertility testing systems
ProSomnus Sleep Tech	PE Growth	\$3.5M		Obstructive sleep apnea oral device

## Apton Biosystems



One of the first notable deals of 2019 was a \$15 million capital raise by Apton Biosystems. Apton is developing a high-throughput, low-cost cloud-based genome sequencing platform and service that has the potential to revolutionize the availability and affordability of genetic sequencing and analysis. The company was founded in 2012 and is headquartered in Pleasanton. Investors include Khosla Ventures and Samsung Catalyst Fund.

Ellen Beasley joined the company as CEO last year. In the midst of Series A fundraising, Ellen Beasley, shared her excitement about Apton Biosystems' technology, employees and future. She met with us to provide her perspective on leading a life sciences startup in the Tri-Valley and what the future holds for Apton's industry.

### Q&A

**From an outsider's perspective, what effect will decreasing costs of genome sequencing have on people's lives?**

Our goal is to deliver a \$10 human genome. When DNA sequencing cost is high, it's difficult to consider sequencing-based testing as a first step. In part because the healthcare system will evaluate the costs of a new diagnostic test relative to existing diagnostic procedures. By radically reducing the cost, you're removing the "one test or the other" dilemma. The lower cost means that when sequencing provides the best answer it is also the practical first step. Sequencing needs to be able to



Ellen Beasley, CEO

be used for screening and management of early stage disease, when clinical decisions are their most effective, rather than later on in the disease cycle. Earlier application of the technology means that patients will benefit from improved detection, management and outcomes.

**We hear talent is scarce these days. How have you been able to find the right people to help you grow?**

I've seen a major benefit to this location in our access to talent. Most of our folks live in Dublin, Pleasanton or San Ramon, but for those of us who commute from San Jose or the Peninsula, it's a very predictable reverse commute. Hiring is always hard for a startup, but we are actually finding it easier to hire here because of the location. People benefit from access to much more affordable housing with good school systems. This is just not the case on the Peninsula.

**The Tri-Valley, and Pleasanton in particular, is home to a growing number of life sciences companies. Did that have anything to do with your decision to base the company here?**

The company is intentionally located in Pleasanton, yes. Part of that is because our founder lives here, but more importantly, there is a critical mass in

the Tri-Valley surrounding life sciences. There are a number of smaller companies, as well as major players like Roche and Abbott. This opens the door for collaboration as well as industry specific talent. We were also attracted to the low cost of commercial space. We were able to afford a site with room to grow.

**A lot of our readers have read about Theranos. Has that controversy in a similar space impacted your business in any way?**

Unfortunately, I think the diagnostics community failed itself during the Theranos scandal. Many people I know said they knew the testing wasn't real after the book came out. Sometimes we are too respectful or hesitant to speak out. When you see something, on the face of it absurd, scientifically impossible or at least implausible, you should assert your opinion and ask hard questions. The fallout from Theranos is that it created a level of trepidation around fantastic technical claims - this may also be the silver lining.



Apton Biosystems Device

## Hard Tech

There was significantly more capital going into hard tech companies in 2019 than in prior years, with 30% of total venture capital raised primarily funded two companies: Alif Semiconductor and AEye.

Alif Semiconductor was founded by Syed Ali, former co-founder of Cavium Networks which was acquired for \$6 billion by Marvell Technology in 2018. Alif is headquartered off of Stoneridge Drive in Pleasanton and is still operating under stealth mode. The company raised its first two rounds of outside capital in 2019, totaling \$77 million and valuing the business at \$300 million.

AEye is an autonomous vehicle company based in Dublin. The company was founded by Lui Dussan, a former NASA and Northrop Grumman technologist, and has raised over \$60 million from investors like General Motors, Airbus Ventures, LG Electronics, Kleiner Perkins and Intel Capital. In January 2019, the company raised a \$40 million Series B valuing the business at \$220 million.

## Private Spotlight



Age-related Macular Degeneration (AMD) is a common eye disease which, in its early stages, causes the center of a person's field of vision to become blurry. As the condition progresses, the blurry area grows larger and goes dark, in some cases leading to total blindness. There is no known cause or cure for AMD and many other low vision conditions. Even more unfortunate, it affects a staggering 1 out of every 15 Americans over the age