

Exclusive: East Bay cancer fighter opens new manufacturing center

May 7, 2019, 2:22pm PDT

Hannah Norman *San Francisco Business Times*

RefleXion Medical is preparing to ramp up production of its cancer-fighting machine, which leverages positron emission tomography (PET) imaging to target cancer with radiation therapy.

The Hayward-based company hopes to have FDA clearance for its medical machine by year's end, propelled by a \$60 million credit facility from Oxford Finance LLC granted earlier this month. In preparation, RefleXion is opening a new 50,000-square-foot manufacturing site later this month, adding to its two building footprint at Mount Eden Business Park.

Typically, cancer patients receive PET scans, with the diagnostic imaging taking about a half hour to materialize fully. Patients then undergo radiotherapy, generally from an external beam outside the body.

RefleXion's new biology-guided radiotherapy technology instead uses the thousands of individual emissions that formulate a typical PET image to identify the tumors and then personalizes the patient's radiotherapy directly toward the cancer at the same time.

"No other company is using the cancer itself to direct radiation therapy and because of our unique workflow, cancer becomes an agent of its own destruction," said Todd Powell, CEO of RefleXion.

By 2020, cancer is predicted to become the leading cause of death in the United States. While radiation therapy has been used for many decades for early stage cancers, the treatment is not used for cancers that have spread because of the challenge of identifying targets and then confidently getting radiation to those targets while sparing healthy tissue, Powell said.

The company's inventive approach to battling cancer stemmed from co-founder Sam Mazin's time as a medical imaging PhD student at Stanford University. Mazin attended a lecture over in the radiation oncology department, and he was struck by the idea of pairing the best tool for seeing cancer with radiation treatment.

That was a decade ago. Today, the company has raised \$165 million in funding and employs over 150 people. The machine will cost between \$3 million and \$10 million, within the range of imaging machines manufactured by industry giants like Varian Medical Systems and Elekta, according to Powell.

"While we're still pre-commercial and haven't treated patients yet," he said, "we're making a machine that will be able to leverage PET in this new and novel way."

RefleXion also hopes its technology will allow clinicians to go after late stage cancer and treat multiple tumors at once. The company is currently working with clinicians across a consortium of 11 medical centers to understand what that might look like.

"We're always vetting novel technologies and testing them so we can give the best care for our patients," said Kristin Higgins, an associate professor at Emory University School of Medicine and medical director of radiation oncology at The Emory Clinic, part of RefleXion's consortium. "Once it gets FDA approval we'll start looking into it."

Higgins added that in general it's important to critically evaluate new technologies, such as RefleXion's, and that the machine still needs to undergo clinical trials, which will begin after it gets FDA clearance.

The company's Hayward manufacturing facility will be home to the machines' complete assembly, as well as a radiotherapy



Todd Powell, president and CEO of RefleXion.

bunker for running tests and a state-of-the-art learning center for training clinicians in the new technology.

RefleXion is one of about 400 biotech, life sciences and advanced material companies laying down roots in the East Bay city, which is actively looking to attract more high-quality jobs, said Paul Nguyen, economic development manager for the city of Hayward.

"We're seeing a tremendous flood of innovative companies flee the high prices of the South Bay and Peninsula for real estate that's relatively affordable and that's near transportation and cheaper housing," Nguyen added.

As RefleXion is hiring aggressively – looking to bring on at least another 50 employees in 2019 – Powell sees Hayward as a great place to foster a growing business.

"We've got the space and the flexibility to do that in a way that really matches our quickening pace," he said.

Following FDA clearance, the company plans to begin selling systems to hospitals early next year, beginning with the consortium of institutions already exploring the machine's capabilities.