

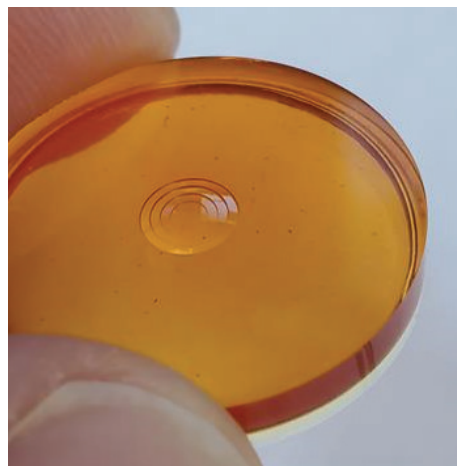
Norcon tackles the challenges of 3D mapping | Luminate NY Spotlight

■ RBJ Staff

Norcon Technologies (Norcon) is among 10 startups in this year's cohort of Luminate NY, a business accelerator at Next-Corps in downtown Rochester that is focused on advancing next-generation optics, photonics and imaging-enabled companies.

The Tuscon, Arizona-based startup is creating a new infrared optics technology for depth image sensors that enable devices, including smart phones, cameras, automobiles and drones, to map the physical world in three dimensions.

Depth imaging sensors are used in numerous applications, such as mapping interior spaces, in-cabin monitoring in cars, autonomous navigation, facial recognition and industrial se-



Norcon is commercializing an advanced optical polymer and lensing technology, specifically for depth imaging applications. (Photo provided)

curity. It's a \$1.5 billion market that's growing at an annual rate of 15 percent and Norcon is working to expand it by making the technology faster, simpler



Jay Liebowitz is CEO of Norcon Technologies. (Photo provided)

to use and more economical to produce.

We talked to Norcon's CEO Jay Liebowitz to learn more about

the company's technology and how Luminate is helping speed its time to market.

Understanding the hurdles in 3D mapping

A fundamental issue with depth imaging technology used in 3D mapping is that the infrared laser used to map a wide area can only emit a narrow beam of light. Manufacturers of depth imagers use optics, such as lenses, to widen the beam, but the lenses have limited light spreading ability. These limitations force manufacturers to spend more on laser power, which in turn increases the size and cost of the imagers they produce.

As the market grows and new applications are made possible, there's a growing need from im-

ager manufacturers for a better, more scalable solution. They are demanding lenses that provide wider fields-of-view to scan wide areas more quickly and accurately and need less expensive solutions so that they can lower production and installation costs.

Optics powerhouses launch Norcon

In 2013, Dr. Robert Norwood, Ph.D., an optical polymer physicist and Professor of Optical Sciences at University of Arizona, invented a superior depth imaging technology, dubbed polymeric chalcogenides (Polycalc optics). The technology is able to bend and spread light better than traditional methods and at a reduced cost.

The benefit of the superior infrared power of Polycalc optics to spread infrared light is that the amount of laser power needed for mapping a given area can be cut in half. Reducing the laser power can reduce the sensor size and

the associated cost by as much as one third. Spreading the light over twice the area can also double the speed of mapping.

To bring the innovative technology to market, Norwood recruited a former Massachusetts Institute of Technology and University of Pennsylvania classmate and colleague, optics entrepreneur Jay Liebowitz. Liebowitz has decades of experience growing and launching photonics startups. In 2019, the two established Norcon.

Norcon's pursuit to advance 3D mapping

Norcon's initial focus is on optics used in depth imaging illuminators and cameras used in compact sensors for machine vision, security systems, smart space monitoring, architectural space rendering and drone and robot navigation.

"Luminate is helping us define our strategy, prioritize market segments and strengthen our

business," said Liebowitz. "With their support, we have a clear understanding of how we can meet the strong demand for optics that improve the functionality of 3D depth imagers."

"Norcon is a strong member of this year's Luminate cohort, hard at work scaling their business from prototype to commercialization and forging important partnerships with depth imager OEMs that struggle with the lack of viable, scalable optics," said Dr. Sujatha Ramanujan, managing director of Luminate. "We are proud of the contribution they are making to the OPI community and the numerous industries that benefit from its innovation."

Later this year, startups in the Luminate accelerator program will compete for up to \$2 million in follow-on funding. If Norcon is awarded the funding, Liebowitz said the team will use it to provide greater optical functionality, finalize quality control plans and ramp up its production capacity.