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Luminate company reinforces fight against counterfeiting

By GINO FANELLI

If you've had your New York driver's license renewed in the past six years, you're holding in your wallet what is considered one of the most secure licenses in the country. Thirty different security features are peppered around the polycarbonate licenses, perhaps most notably the second, laser-engraved portrait near the bottom right corner.

Those kinds of security features are extremely averse to tampering but could possibly be done. Officials at Toronto's Opalux, a competitor in the second Luminate NY cohort, say their product can fix that.

"Say you have a passport, and you manage to modify the portrait. Now you have a passport that's valid—has all the right security features so you can pass through the border but it's got the wrong face. You can use it in all the automated machines — it will still pass even though it's fraudulent," said André Arsenault, Opalux's chief technical officer and director. "What we've developed is a feature that fits with this polycarbonate, this next generation platform, that's integrated, embedded and is basically tamper-proof."

Dubbed OpalPrint, this process effectively integrates a color-changing scheme on a nanostructural, which looks similar to a gasoline-effect, right into the polycarbonate which is effectively impossible to alter or print over without being easily identified as a fraud. Polycarbonate cards currently can be altered using the right laser printing technology.

Founded in 2006, Opalux has functioned mainly as a research company through most of its life. In 2017, the firm was offered a partnership with De La Rue, a Basingstoke, U.K.-based company that produces bank notes for 69 national currencies, making them the largest company of their type on the planet.

"There's a number of these players around the world that provide currencies or passports to governments," Arsenault said. "Governments will tender bids for, say, passports. De La Rue will provide the whole passport as a blank, and then the government can add in the information for each individual citizen. We've made sure our technology works with the same lasers, so they don't need to spend any extra capital to do that."

Passports and identification cards are currently Opalux's main wheelhouse, but the company's technology has a sweeping range of applications. ElastiInk, for example, is a flexible security feature that changes its physical appearance based on touch, making it completely reversible and extremely difficult to forge. Another variety of ElastiInk, which doesn't return to its normal state after being altered from heat or touch, can be used to indicate whether a document has been tampered with.

Some of the first documents implementing Opalux's tech are slated to roll out in late 2019 or early 2020.

"We've spent a lot of time trying to figure out what our technology would really be useful for, and in that time found out about the security and anti-counterfeiting industry, which really was interesting to us and we really fit into that market," Arsenault said. "So we spent a few years developing relationships in that area."

As could be expected, entering into such a high-security market can be difficult. Arsenault said Opalux's foot in the door was through old-fashioned networking, attending conferences, pitching the tech and waiting for the right connections to come to fruition.

"It was quite a tricky part of it, because it is a very conservative industry," Arsenault said. "It's kind of tightly held. It's really difficult to get into that club, but we're now in that club. We've been going to security printing conferences for 10 plus years, made good relationships … so it's been a little bit of a winding road to find ourselves here."

Security printing is Opalux's market driver right now, but Arsenault sees some other groundbreaking applications for its technology. Take, for example, Photonic Ink, which is a surface coating that responds to low-voltage currents, changing its appearance. It can be applied to most surfaces whether they're flat or curved.

"Anywhere you might have power … think of anywhere you'd want to change the color of something with the flick of a switch," Arsenault said. "That's something that's part of our roadmap."

Closing in on the end of their time in the Luminate NY accelerator, Arsenault said the program has proven extremely valuable in helping guide the company through the next steps of their business growth, as they come closer and closer to actual market roll-out.

"We've really enjoyed the different sessions they've put together. We were very kind of R&D-focused for a long time with less of a commercial bent," Arsenault said. "I feel this is really kind of rounding us out. It's been invaluable getting our pitch into a shape for an outside investor. … There's just been a really good amount of information and people that really know their stuff."

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Spotlight on Luminate

Ten companies composed of some of the brightest minds in the field of optics, imaging and photonics are fine-tuning their technologies inside NextCorps' Luminate NY accelerator. The winners of November's second Lightning Awards, these companies each received $100,000 in funding, free residency in the accelerator and access to NextCorps' web of resources and mentoring. On June 27, the most promising of these 10 will receive a total of $2 million in follow-on funding. Originally funded for two years, the Luminate NY accelerator has now been funded for three more years via $15 million in additional state funding.

Leading up to Demo Day, the Rochester Business Journal is featuring profiles of the companies holding the keys to the next chapter in Rochester's history as the world's imaging center.

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