



TECHNOLOGY

QUEUES AND LINES

COMPANIES SELLING SOLUTIONS THAT CAN KEEP VENUE PATRONS OUT OF LINES

BY JAMES ZOLTAK

NEW AND EXISTING technologies are being brought to bear in the effort to reopen venues amid the coronavirus pandemic, with some that have been around for years finding new salience or being modified to help address COVID-era health and safety imperatives.

Examples include Waltham, Mass.-based **Evolv Technology**, which for the last seven years has employed touchless sensors and an algorithm to detect threats faster and with less guest friction than what's afforded by magnetometers, pat-downs and bag searches. In July, in response to clients' needs since the pandemic struck, the company announced that thermal imaging capability had been added to its Evolv Express artificial intelligence-based platform.

The company's roots date back to 9/11 and the death of a close friend of Anil Chitkara, co-founder and head of corporate development, in the North Tower of the World Trade Center. Then in 2013, the year Evolv was launched, Chitkara and two of his children waited at the finish line for his wife to complete the Boston Marathon. Not an hour after she was done running, the first of two deadly terrorist bombs detonated.

Both attacks were examples of a dynamic shift in the nature of what and who was being targeted. Chitkara and Mike Ellenbogen — Evolv's co-founder and head of advanced technology, who had been active in aviation threat detection — established the company with the goal of making public gathering places safer from attacks, including mass shootings, but without a stifling security element.

WALK AND ROLL: Evolv Technology's Evolv Express helps cut lines at security gates.



COURTESY EVOLV TECHNOLOGY



HAVE A SEAT: Tooshlights' installations (far left) allow fans to know if there's room at the restroom for them.

Either way, the processing rate is substantially greater than a typical "mag and bag" setup, he said, adding that security staff deployed to entry points can be reduced 60% to 70%.

The system also generates data on how guests move into a venue that operators can use to deploy resources, Chitkara said.

"Clients wanted us to recognize that the overwhelming majority of people coming into a venue are not a threat" and using technology to differentiate things like cell phones from firearms or other weapons gets them through the gates with less friction, he said. "What's happened in the COVID environment is because you can get a lot of people through there, and the alarm rate is extraordinarily low, there is very low touch between security staff and the visitors coming through. That's one benefit. The other benefit is, because it's so fast, you don't have lines building up, so the visitor proximity because of lines disappears."

Chitkara wouldn't offer specifics on pricing but said Evolv operates on a monthly subscription model.

Evolv's most direct competitor is Vancouver, British Columbia-based Patriot One Technologies, which also offers an AI-based threat detection system with thermal imaging capability.

TOOSHLIGHTS: GREEN MEANS GO

With renewed focus on health and safety and venue hygiene, another product that is seeing a surge in interest is Tooshlights from Woodland Hills, Calif.-based Modus Systems, which uses a system not unlike electronic signs at mall parking structure entrances to let guests and venue operators know when and to what extent restroom stalls are being used.

The technology is in use at Dodger Stadium, and Tooshlights has pilot installations at Golden 1 Center in Sacramento, Calif., and State Farm Arena in Atlanta. The company also is in talks with Banc of California Stadium in Los Angeles, according to Modus Systems founder and CEO Allen Klevens, who said the company's first client was the iconic Hollywood Bowl amphitheater.

The battery-powered system has two components for each stall or single-use restroom: a smart latch or deadbolt and an indicator light that links up wirelessly to the latch so that an available stall displays a green light, while an occupied or otherwise unusable stall shows red.

"As these events took shape, it was very clear what we needed to do," Chitkara said of how the company came to be.

Released in 2019, Evolv Express can screen groups of guests at once, an improvement on the company's original Edge platform, which screens them one at a time. Both eliminate the need to empty pockets of metal objects, Chitkara said.

Evolv Express has been deployed in public assembly facilities including Lincoln Center in New York, Gillette Stadium in Foxborough, Mass., and Georgia Aquarium, and has been used on a pilot basis at Atlanta's Mercedes-Benz Stadium. It can screen 800-1,300 people an hour with a dual-lane installation, according to Chitkara, as opposed to as many as 3,600 without thermal imaging.



ARM'S LENGTH:
Fans at Kansas City's Arrowhead Stadium can avoid lines by buying food and merchandise with Tappit.

It's compatible with most toilet partitions and doors, and the company recently struck a partnership with Sloan Valve Co., which is manufacturing and selling the Tooshlights product, Klevens said.

The company has installations at airports, including LaGuardia in New York, Boston Logan and Dallas/Fort Worth, he said.

Klevens, a musician by trade, started the company in 2014, two years after selling another business that he launched, Prescriptive Music, which provided custom background music for use in hotels, restaurants and bars, and retail settings.

"We introduced Tooshlights in order to make the lines more efficient in stadiums and venues across the United States and the world," he said. "With that, we are part of the Internet of Things, so we've now moved from efficiency of lines to also health because of COVID.

"So when you walk into a restroom, obviously we want

via mobile devices regarding supply levels or functional issues, Klevens said.

The company, which charges a per stall fee for the hardware — Klevens declined to offer specific numbers — and makes data available through a recurring monthly revenue model that more than 90 percent of clients opt for, has seen a surge in interest since the pandemic struck, according to Klevens.

Klevens said one trend he expects to see in public venue restrooms is partitions that go from floor to ceiling to provide added privacy and safety, which will make Tooshlights even more useful.

"We are getting calls from stadiums that are new this year, that haven't even opened yet, that are now deciding whether they need to change the restrooms and add us even though they are months away from possibly getting the keys," he said.

Klevens has also received strong interest from festival organizers, and the company is working to develop units that can stand up to an outside environment.

TAPPIT: MOVING INTO THE U.S.

The pandemic has accelerated the trend toward cashless transactions at venues and events, and among the companies riding that wave is London and Manchester, U.K.-based Tappit, which uses radio-frequency identification technology as well as a white-label approach in which Tappit's tech is integrated into venue, team or event branding to facilitate payments and other aspects of commerce.

The 2-year-old company, with a strong presence overseas, within the last several months moved into the U.S. market and on Aug. 13 announced it had [struck a deal with the NFL's Kansas City Chiefs](#).

Other Tappit clients include Manchester City FC, Birmingham City FC, Creamfields EDM festival, Camp Bestival, and the Australian Grand Prix and Abu Dhabi Grand Prix, both on the Formula One circuit.

Company CEO Jason Thomas said Tappit had also worked with Live Nation and was enjoying robust growth and interest, with about 40 partners signed in the past year and burgeoning inquiries in the U.S. over the past nine months. As with cashless systems in general, Tappit promises to reduce queues, increase revenue, curtail fraud, generate data for improved customer relationship management and make transactions safer from a health standpoint for both fans and employees alike.

"Partners who were thinking of going cashless pre-COVID are now going cashless, and we've had queries from partners who didn't seem to have any interest pre-COVID," Thomas said.

Making for a safer experience for both fans and employees is a key element of cashless systems, he said.

"Sometimes everybody gets a little bit obsessed with fans, quite understandably. That's where your revenues come from, but first and foremost, from an organization's perspective, it's really ... looking after your staff and then passing that on to fans," he said.

Tappit works with QR codes, which can be scanned through glass, "and you don't have to have any physical interaction whatsoever," he said.

Working with partners' internal infrastructure makes the system more affordable, a key element during a period when revenue streams have dried up, Thomas said.

At Kansas City's Arrowhead Stadium, the technology is already being incorporated into the Chiefs' mobile app as well as concession and merchandise points of sale. The stadium's general concessions are handled by Aramark and premium dining by Levy. ▣



to keep people limited to how many people are in there, so what we've been doing is installing these everywhere and we've created an (application programming interface) and with that we've had customers put screens outside of their restrooms that say three stalls available, one stall available, zero stalls available (so) please wait. We can also use the API for an app, so if they are sitting somewhere, they can look on the stadium's app or the venue's app and see how many stalls are available, so they don't need to walk up and wait in line."

With the raw data being generated, a venue can see in real time how stalls and restrooms are being used and get alerts about a stall that has been locked for an inordinate amount of time, indicating a possible health emergency, as well as better judge when to send in cleaning crews or more supplies. Trends can be analyzed to allow venue staff to know when or how often they need to service restrooms, Klevens said.

About 95% percent of the company's work consists of retrofits at existing venues, he said.

Tooshlights can also be included as part of a suite of products, like Georgia Pacific's Kolo smart monitoring system, which gives maintenance and sanitation crews alerts

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