

Utah company Banjo is building a massive surveillance system with the help of the state's attorney general

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In less than three years, a secretive technology company called Banjo relocated to Utah, struck up a cozy relationship with the state's attorney general and started building a massive real time surveillance system.

It listens to 911 calls throughout the state. It monitors traffic cameras. The location of police cars. Your social media. And more.

Banjo's founder and CEO, Damien Patton, is still building out his "Live Time" platform, enticing some city police departments with free pilot programs and seeking a state grant to help bring others on board. But he won't talk about it, declining multiple interview requests from The Salt Lake Tribune and other news media.

Patton won't say what data the company collects. How many police agencies in Utah are participating. Or what is being done to protect the privacy of Utahns. Instead, Banjo leaves the explanations to the Utah Attorney General's Office and, specifically, Ric Cantrell, chief of staff to Attorney General Sean Reyes.

"I think in Utah we have a fighting chance to invent the system in a way that will not subvert the historic liberties of citizens," Cantrell said in an interview. "I don't trust other states to do it. I certainly don't trust other countries to do it."

Patton and his representatives, leveraging ties to Reyes, have pushed Banjo's product in other states and with the federal government. But Cantrell said to his knowledge, the company's surveillance technology hasn't been used outside Utah's borders. That makes the state a laboratory for Banjo, both in terms of deploying an evolving platform and figuring out ways to regulate a private company's unprecedented access to public data.

In November 2018, the attorney general's office worked to bypass the normal procurement process to secure a sole-source, \$750,000 contract with Banjo, according to emails The Tribune obtained through a public records request. A staffer emailed the company asking them to help make a "business case" for why the state should skip the normal bidding process.

"In other words, I must describe the service/product in detail... and demonstrate why there is effectively no competition for this service/product," the staffer wrote. "Whatever information you can provide in this regard will be helpful, if not critical."

By July 2019, the company had a \$20.8 million, five-year statewide contract, allowing Banjo to ingest huge amounts of state information for its "Live Time" platform.

Patton describes his system in a promotional video this way: "Live Time means understanding all data brought together from every available source and combining it as it is generated into a crystal clear view of what's happening anywhere right now."



(screengrab from Banjo company website) Damien Patton's company, Banjo, has a contract with the state of Utah to create a live-time surveillance system to help law enforcement and other entities respond to situations faster. Some experts worry about privacy implications.

Reyes and Cantrell have bought into the company's mission statement — "To save lives and reduce human suffering." They envision a future where Banjo's artificial intelligence helps police rescue a kidnapped kid, directs the highway patrol to crashes before someone calls police and alerts firefighters to a blaze moments after it ignites, at the same time relying only on data that doesn't identify individual people.

The data or "signals" are funneled into a black box artificial intelligence that Banjo and Utah law enforcement agencies say improves response times, although state agencies have yet to cite any real-world examples. Some local police say the platform has helped tangentially so far.

But one big question seems to be unanswered in state and city contracts: How does Utah know that Banjo's data isn't being misused or hacked? The state has the right to audit Banjo's performance, it just hasn't figured out how to do it yet.

"The best way to predict the future is to invent it," Cantrell said. "We're still in the process of inventing how that all works."

Security experts, professors and civil libertarians have concerns about the direction Utah is headed with Banjo.

"Law enforcement and governments often pursue new surveillance technologies they claim will make people feel more secure without doing anything to improve overall safety," said Jason Stevenson with the American Civil Liberties Union of Utah. "The actual result, however, is a decline in everyone's right to privacy."

How Utah has invested in Banjo

Last August, when Cantrell and Utah's Department of Public Safety presented their plans to the Legislature's Executive Appropriations Committee, House Majority Leader Francis Gibson slammed the platform as Orwellian and "North Korea-esque."

The attorney general's office is back this year lobbying the Legislature for funding so that it can offer grants for more police departments to sign on with Banjo, according to Cantrell.

Rep. Angela Romero, D-Salt Lake City, is among lawmakers raising concerns, particularly about artificial intelligence's proclivity to discriminate against minorities. She also worries about Banjo's multimillion-dollar cost.

"Why are we even investing in Banjo? How does it benefit the state when it comes to transportation and law enforcement?" she said in an interview. "It causes great concern for me, and I hope it causes great concerns for my colleagues as well."

Romero said she plans to investigate Banjo further in coming months.

Sen. Todd Weiler, R-Woods Cross, said he briefly met Patton but doesn't know much about the state's relationship with Banjo. When it comes to predictive law enforcement, Weiler said he does have some concerns.

"But I also want to catch bad guys, so we've got to balance all that," he said.

Three state agencies already have contracts with the company. The Utah Attorney General's Office and Department of Public Safety both contribute \$850,000, while the University of Utah chips in \$500,000.

Utah's contract with Banjo by The Salt Lake Tribune on Scribd

The data or "signals" Patton suggested using were redacted in emails handed over in a records request, but agreements obtained from DPS, Utah Transit Authority (which decided not to enter into a contract with Banjo), Utah Department of Transportation and local law enforcement agencies provide clues.

The crown jewel of public data appears to come from UDOT's traffic cameras. Banjo is storing its own servers at the Transportation Department headquarters to intercept and store camera feeds.

Banjo's agreement with UDOT requires the company to purge its stored camera data every 24 hours.

But so far, the state does not appear to have any way to ensure that the company is doing what it says it will do.

Cantrell said he meets quarterly with Jimmy Higgs, deputy public safety commissioner, and Jason Perry, vice president of government relations for the University of Utah, to perform an informal oversight role over the company.

In an interview, Higgs said his department only plans to use Banjo to improve its response time to traffic accidents — at least for now. He says the department may expand its use of Banjo in the future.

"That's something we'd have to determine down the road," Higgs said. "We're excited about this platform for sure."

Higgs said all personally identifiable information is removed from department data before it is sent to Banjo, including 911 callers' names and phone numbers. Higgs did not know whether Banjo is required to purge the public safety data or if it is stored indefinitely.

"I'd assume they are purging, I don't know why they'd pay the money to store it," Higgs said. "If they aren't, they should be."

The University of Utah sees Banjo's platform "as a tool that could benefit university police in their investigative processes and ensure more seamless coordination and communication with our law enforcement partners across the state," spokesman Chris Nelson said.

The U. provides Banjo with access to police dispatch calls, security cameras around campus and data from the university's license plate readers. The university originally deployed license plate readers to monitor paid parking lots and ticket those who overstay.

The Tribune submitted a records request to the university about the arrangement, but the university citing a records request backlog has yet to provide any information. Nelson said Saturday that he'd attempt to expedite the request.

He said Banjo and state entities are "still in the early stages of operationalizing the system."

State agencies have yet to use Banjo in any real-world crime situations that prove the technology's effectiveness, Cantrell said. But he points to two child abduction training scenarios where Banjo's Live Time platform found the "victim" in seconds.

Cantrell described it as "pretty magnificent" adding, "we could've been at the door in 10 minutes."

(Trent Nelson | The Salt Lake Tribune) Ric Cantrell, chief of staff in the Utah Attorney Generals Office, in Salt Lake City on Tuesday, Feb. 18, 2020.

Banjo is also in the process of building an opioid heat map for the state which could include data from hospitals, such as which beds are open at a certain time, emergency room reports and naloxone kit reports.

Cantrell said he's mulling the idea of an "invent the future committee" that, under the umbrella of the attorney general's office, would brainstorm oversight rules for private surveillance companies like Banjo. Those rules would theoretically be approved by the Legislature. He's trying to figure out who would be on that committee.

"I don't feel pressure," he said. "But I feel like it's important that we do it in the next six months."

Police departments are signing up

Banjo's lobbyist Bryan Smith used to work for Cantrell when both of them were employed in the Utah Senate. Cantrell was the chief of staff and Smith was his deputy. Smith also was executive director of the Utah Republican Party.

He's been pitching Banjo's services to city councils and police departments.

Cantrell said "dozens" of police departments have deployed the technology and are sharing surveillance camera feeds with the platform, but it's not something his office tracks.

The only people who can list all the Utah law enforcement agencies using the platform work at Banjo, and they are not talking.

The Park City Police Department was an early adopter, according to Chief Wade Carpenter, and uses it for free as part of a pilot program. The city signed a memorandum of understanding with Banjo in February 2019. Since that time, police have used Banjo to track assaults, hit-and-run accidents and burglaries.

"Everything is anonymized. All personal identified information is stripped out," Carpenter said.

Park City also is sharing bus GPS locations, and about half of Park City businesses have agreed to share their private surveillance cameras with Banjo, Carpenter said.

Ogden police also share their vast network of city surveillance cameras with Banjo, according to David Weloth, director of Ogden's Real Time Crime Center. "[Their] artificial intelligence can detect when there's something unusual going on within the view of a camera," Weloth said. "Then it's up to us to decide what to do."

Ogden earmarked \$138,000 for Banjo's software, according to a [2020 budget proposal](#). Banjo also plans to build a system for Ogden police that tracks beds available in homeless shelters, which it will provide for free, Weloth said.

So far, Ogden police haven't had a success story that they "can hang our hat" on, but Weloth said he's happy with the Banjo platform.

"It's a pretty innovative approach to identifying ways to close that gap in time" between when a crime happens and police respond, he said. "We don't necessarily expect to hit the first pitch out of the park."

Privacy and technological concerns

Patton, Banjo's CEO, has spoken at Silicon Slopes tech events and other venues about making privacy a priority, but Banjo's Master Services Agreement with Reyes alludes to ways the company's Live Time surveillance platform could be abused. It prohibits using the data to track or determine an individual's

political affiliations, religious views, social views, locations and associations. It also bars its customers from using the technology to monitor employees.

Banjo says it has patented technology to anonymize personal information from the public data it collects, though some technology experts have raised concerns. (A recent analysis by Vice found no information about Banjo patents that strip personally identifiable information from data).

“In theory it all sounds fine, the technology sounds really cool, but I think there is potential danger there in a number of ways,” said Sean Lawson, an associate professor at the University of Utah who teaches courses on topics like surveillance and counterterrorism.

Among the potential dangers from a platform like Banjo, Lawson said, is the opportunity for false positives — whether through a glitch in the algorithm or a bad actor gaming the system and spoofing a crime or traffic event.

“In the world of cyber warfare and information warfare that I study, that’s precisely the kind of thing a terrorist organization or state actor would do,” Lawson said.

He added, “It’s good they’re anonymizing the data, it’s better that they’re doing that than not doing that. But at the same time, I don’t think we should have a false sense of security.”

Reams of studies have shown it’s relatively easy to de-anonymize everything from credit card data to Netflix movie rankings. Just four geotags from a smartphone can be enough to identify someone, according to a 2013 study.

“What we have seen in the past is that most claims to anonymization do not survive a determined hacker,” said Suresh Venkatasubramanian, a professor at the University of Utah School of Computing with expertise in artificial intelligence and ethics.

Tech companies often claim that the more data sources they collect, the better their system operates, Venkatasubramanian said.

“This is not an argument I agree with,” he said.

Beyond creating more opportunities for false positives, loads of data can swamp artificial intelligence and create false negatives, Venkatasubramanian said. With too many signals, systems sometimes can’t tell the difference between important patterns and unimportant ones.

“With these kinds of things, transparency and the ability to audit these systems is important. Any designer might have good intentions,” Venkatasubramanian said. “What we know and see over and over again is it’s very easy to design systems that unintentionally or otherwise have problems.”

Whether a partnership between a private company like Banjo and a government agency becomes transparent could come down to whether the public insists on it.

“I remain optimistic that we should at least speak up and push back, even if it seems like a lot of these things are rolling out,” Venkatasubramanian said.

How Banjo shifted strategies

Banjo’s push to secure government contracts and Patton’s refusal to talk to reporters are shifts for the company that has reinvented itself over the years.

Back in 2015, when Patton sported a clean-shaven face instead of a chest-length beard and his company was still headquartered in Las Vegas, he mostly marketed the Banjo platform to media outlets. He provided unfettered, free access to reporters so they could break stories like fires and train derailments. Banjo pitched its services to The Tribune in 2017. No agreement was reached and no free access was given.

Patton spoke to a journalist with New York’s WNYC in 2015 about his decision “not to share our platform or information with government agencies” due to concerns about surveillance. He told The Los Angeles Times that same year that he had been approached by government agencies in the past but had “no interest in working with them.”

Banjo's tune changed after it relocated to Utah and developed a close relationship with the Utah Attorney General's Office.

Emails obtained by The Tribune show Reyes and his staff have effectively acted as Banjo lobbyists. Reyes exchanges direct emails with Patton as early as 3 a.m. He introduced Patton to state legislators, top law enforcement officials and helped Patton get invited to a White House event. In an email to Banjo's vice president of finance and operations, Cantrell called the company his "favorite people in the state."

Reyes is no stranger to working with tech companies. Before becoming attorney general he was a lawyer for Springville-based eTAGZ, a now defunct digital advertising and content-placing firm. He has received more than \$15,000 in campaign contributions from Uber, more than \$14,000 from Facebook, nearly \$9,000 from Microsoft and \$5,000 from Amazon.

Beyond Banjo, Reyes also signed a contract with Liberty Defense to test its HEXWAVE technology, which scans large groups of people for weapons without their knowledge. Through the attorney general's office, HEXWAVE could be tested at arenas, stadiums, schools, amusement parks, festivals and churches in Utah. Reyes' Memorandum of Understanding with the company even allows the use of his name and logo in HEXWAVE promotional materials and social media posts.

Cantrell said Reyes' experience in the technology sector gives him a proclivity for "high-tech crime fighting tools."

"It's nice because sometimes government bureaucracy runs slow and is slow to embrace new technologies and solutions," Cantrell said. "That's not Sean's personality at all. There are pros and cons to that."

Tribune reporter Bethany Rodgers contributed to this article.