

The State of GovTech in Justice and Public Safety

12 startup stories show the innovation of cloud applications for essential public sector needs.

Introduction

Artificial intelligence (AI) that helps police thwart active shooters before they fire a gun. Cloud apps that bring together multiple emergency response teams within seconds of a crisis. Learning software that's specially designed to help formerly incarcerated individuals elevate job skills.

These and other intriguing stories emerged at the annual State of GovTech conference, which brought *Government Technology* magazine and Amazon Web Services (AWS) together for a demo day with a dozen public sector-focused startups. The companies at this year's event represented the inaugural AWS GovTech Accelerator, which helps young companies gain a foothold in the marketplace.

"As governments move from build to buy and look to industry partners to help solve the myriad problems on their plate, GovTechs have a very tangible role to play in getting agencies where they want to be," says Danielle Hinz, executive government advisor with AWS.

Ultimately, GovTech solutions must address the day-to-day concerns of governments and the public. "While the industry may get a bit of a 'shiny object' syndrome around AI, there will always be the need to build solutions that are secure, reliable, scalable, and accessible," Hinz says.

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Medex Forensics

Authenticating video evidence

WEB: medexforensics.com

HQ: Madison, Wisconsin

Law enforcement agencies use video evidence in millions of investigations. But how can police authenticate all this video in an age of deepfakes, digital fraud, and generative AI?

“At this scale, it’s impossible for law enforcement agencies to manually authenticate and process this kind of video data,” says Bertram Lyons, CEO and co-founder of Medex Forensics.

Lyons’ startup, Medex Forensics, gives agencies a fast, automated way to analyze digital videos. A digital archivist by training, Lyons started working with the FBI in 2016 to help untangle vexing riddles about digital videos: Were gruesome terrorist videos real? What models of cameras had been used to create child sexual exploitation videos? Can video evidence submitted by residents be trusted? Were body-worn camera videos edited before being sent to the public?

Lyons co-founded Medex Forensics to help answer these questions. The Medex application provides a scalable method to determine the originality of a digital video, identify the software and hardware that created it, and detect evidence of tampering, Lyons says. A cloud-based SaaS application built on AWS provides a simple, straightforward graphical user interface.



There’s also an on-premises version of the app for agencies that prefer not to use the online app. An application programming interface connects the solution to other agency systems. Unlike other AI-based video-analysis tools, Medex Forensics doesn’t use object recognition. “Our game is purely a binary analysis of a file,” Lyons says. “We work on describing the life cycle of the file, and we can use that to establish trust.”



Orijin

Preventing recidivism with technology

WEB: orijin.works

HQ: New York, New York

It's a laudable idea: education that prepares people to reenter the workforce after incarceration and keeps them out of the justice system for good. The Orijin platform can help governments turn this ideal into reality.

"Do you know the single biggest predictor of post-release success for returning citizens?" asks Origin CEO Harris Ferrell. "If they can get a living wage or sustainable job, their likelihood of being reincarcerated plummets into single digits, if not zero."

Orijin partners with state correctional authorities and labor departments to provide job training so people can end their sentences and reenter the workforce with marketable skills.

Built on AWS, the cloud-based platform has two components: secure, 10-inch tablet computers to deliver instruction while individuals are still incarcerated, and software applications to guide learners through online educational programs and help them absorb class materials. Courses start with the basics like high school equivalency. They also train for specific careers in information technology, manufacturing, marketing, entrepreneurship, and skilled trades.



The system is purpose-built to deal with issues like court orders and mandates for specific services. The services are fully paid by the justice system; there's no charge to people finishing incarceration or to their families. Orijin also designed the program to overcome resource shortages that often limit the potential of prison-education systems. "Our technology can be delivered to 100 percent of the population," Ferrell says.

10-8 Systems

Modernizing and accelerating dispatch software

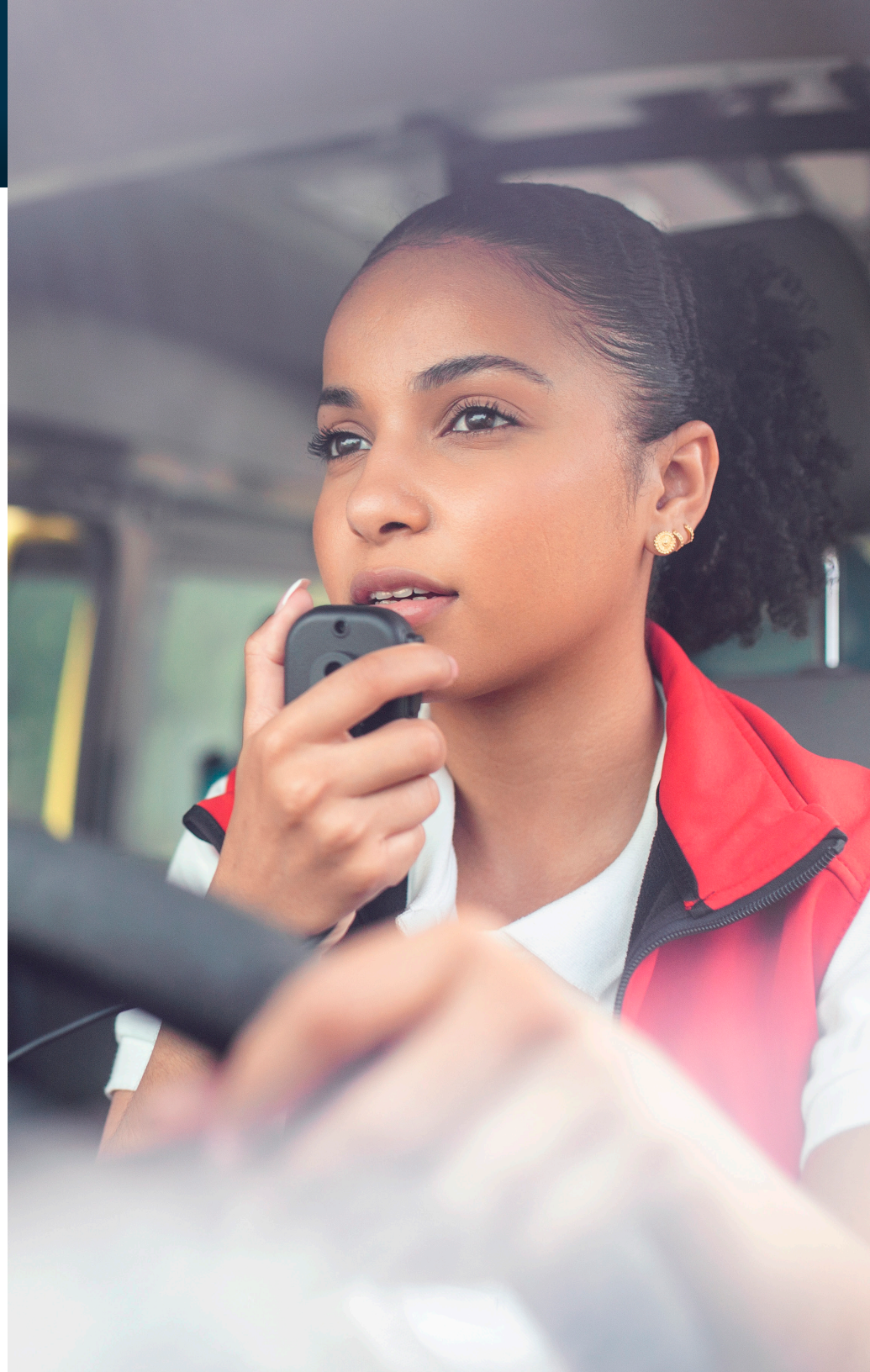
WEB: 10-8systems.com

HQ: Mission Viejo, California

911 centers across the U.S. are long overdue for technology modernization. “Most are still using pen and paper or woefully antiquated solutions,” says Kevin Ruef, co-founder and director of business operations with 10-8 Systems, a cloud-native computer-aided dispatch (CAD) platform.

10-8 Systems’ other co-founder is Bryan Ruef, Kevin’s younger brother, who learned the “10-8” (ready-for-duty) radio code during his years as a dispatcher and EMT, when he struggled with the limitations of legacy CAD software. He and his brother built the platform on AWS to make 911 modernization faster, easier, and future focused. “With modern infrastructure, you can use new features like generative AI,” Bryan Ruef says. “Older systems cannot do that because they’re built on old code bases.”

Public safety pros helped design the platform, which also has a mobile app and document management tools. An open API connects it to legacy and third-party software. “We can build in a way that pushes public safety forward instead of holding it back,” Bryan Ruef says.





Atlas One

Messaging to build community engagement

WEB: www.atlas.one

HQ: Austin, Texas

Engaging with the public gives police agencies a force multiplier that helps build trust, boost safety, and confront staffing shortages.

"There is an unprecedented problem with staffing and lack of officers across the U.S.," says Jamieson Johnson, co-founder of Atlas One, a messaging platform designed to strengthen engagement between law enforcement and constituents. "We're hearing applications are down 80% in the last five years."

Atlas One gives police forces an easy-to-use platform for communicating directly with the public. Agencies can compose messages and let the platform deliver them in the proper format for specific social media applications. The system can send real-time alerts to neighborhoods during 911 calls. People can respond with tips and ease the workload on officers. Sharing photos and videos offers boots-on-the-ground assistance. Non-emergency calls to 911 can be rerouted to provide quick answers.

"This allow cops to focus on what they should be doing," Johnson says.





eHawk Solutions

Getting people to court on time

WEB: www.ehawksolutions.com

HQ: Lee's Summit, Missouri

eHawk Solutions' smartphone app RePath reminds offenders not to miss their court dates. Court systems save time and money, while offenders avoid piling up extra charges that lead to longer sentences. It's a simple, practical way to help manage populations before and after they are incarcerated.

The RePath platform helps agencies manage supervised releases. It acknowledges most people have smartphones that can help them reduce their risk of incarceration. Given the high costs of feeding, sheltering, and securing people in jails and prisons, the savings can be substantial.

"We see a 70% cost savings over traditional forms of supervision and a 125% overall increase in officer efficiency," says Bart Cooper, CEO and co-founder of eHawk Solutions.

The platform also looks at data from RePath users and combines it with publicly available information to help predict which users are at risk of reoffending. "We've seen 40% fewer failures appear, and report a 60% increase in compliance with conditions of release," Cooper says.





ForceMetrics

Unifying vital data in a central platform

WEB: www.forcemetrics.ai

HQ: Denver, Colorado

Speedy access to reliable, contextual data helps police officers defuse tense situations and reduce the likelihood of negative outcomes. That's the core promise of ForceMetrics, which creates a central data repository and delivers background information that gives officers context behind the threats they encounter every day.

"Responders don't have the information they need when lives are on the line in the moment," says Jason Truppi, a former FBI agent and ForceMetrics' co-founder and chief technology officer. "They're going into every single call for service completely blind on historical information."

ForceMetrics gives law enforcement access to valuable data that's typically locked up in other government systems. AI algorithms sift through the data and help officers access information on whether a suspect has mental health issues, for example.

The software is vendor-agnostic, so it works on legacy systems. Police departments can improve service and efficiency by reducing time lost to intensive research. "Officers are saving minutes — in some cases, hours," Truppi says.



FORCEMETRICS





Intrepid Networks

Boosting situational awareness for mobile apps

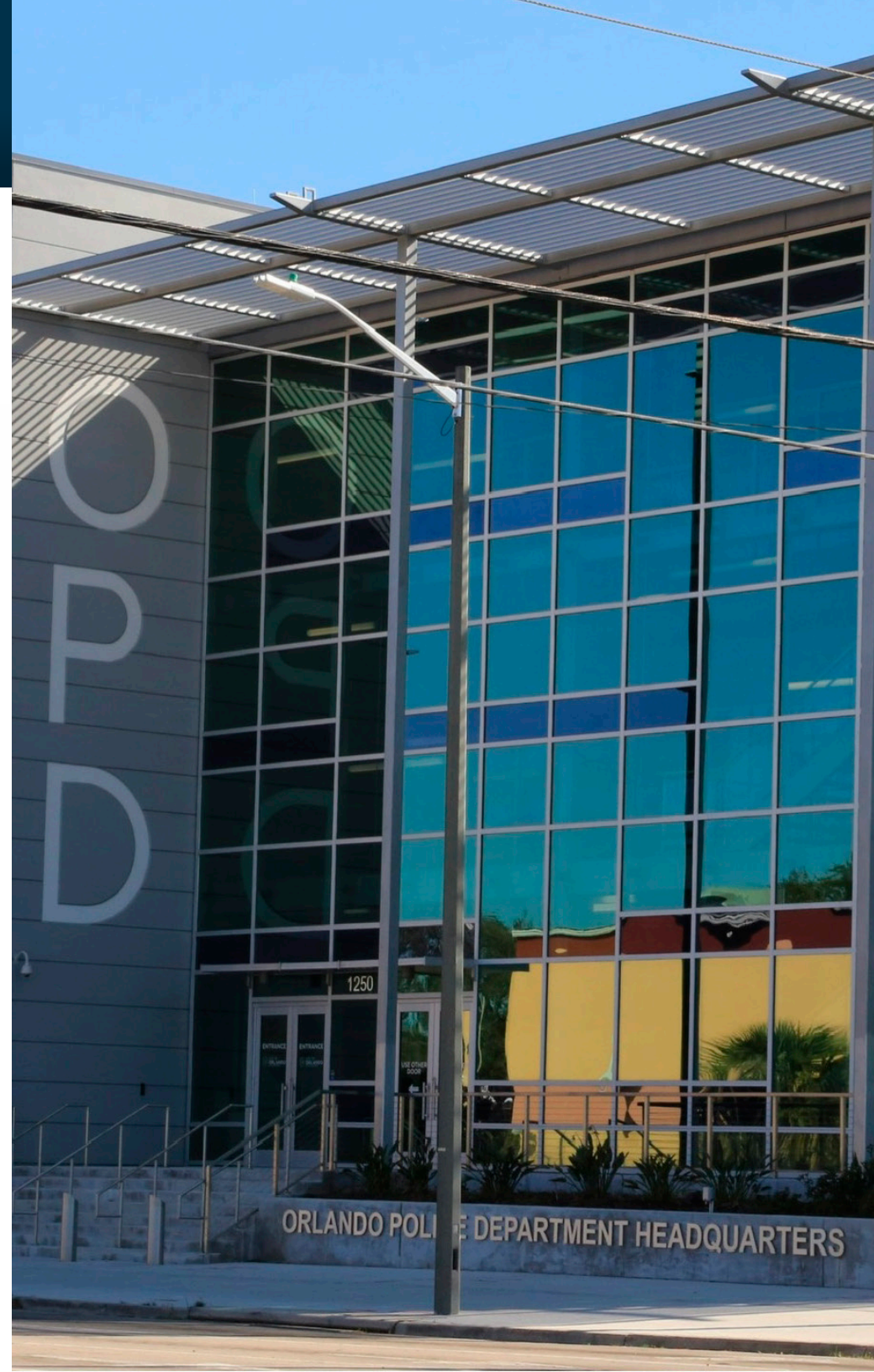
WEB: www.intrepid-networks.com

HQ: Orlando, Florida

There's no substitute for the immediacy of push-to-talk radios for police at crime scenes or firefighters working active blazes. But radios can't deliver the real-time situational awareness emergency managers need. That's where mobile apps and cellphone networks come in.

"If you can produce data-driven capabilities to augment voice, you'll have a much better result," says Britt Kane, Intrepid Networks' CEO and co-founder. Intrepid Networks' mobile app helps first responders communicate, coordinate, and collaborate. Modules include mapping, emergency notifications, and incident team formation. There's also an option for real-time chatting.

Intrepid Networks customers can stitch together the capabilities they need to elevate situational awareness for public safety and boost the effectiveness of other government staff working in the field. Moreover, cloud applications enable them to centralize communication functions to improve information accuracy and reduce radio chatter so people doing dangerous jobs can focus on what matters most. "They can respond much quicker to incidents and literally save lives," Kane says.





Multitude Insights

Getting clues to investigators

WEB: www.multitudeinsights.com

HQ: Cambridge, Massachusetts

Police investigators must sift through mountains of useless data to find a single important clue. Multitude Insights' AI makes that process vastly more efficient. "We give them more needles and less haystacks," says Frank Conroy, Multitude Insights' chief technology officer.

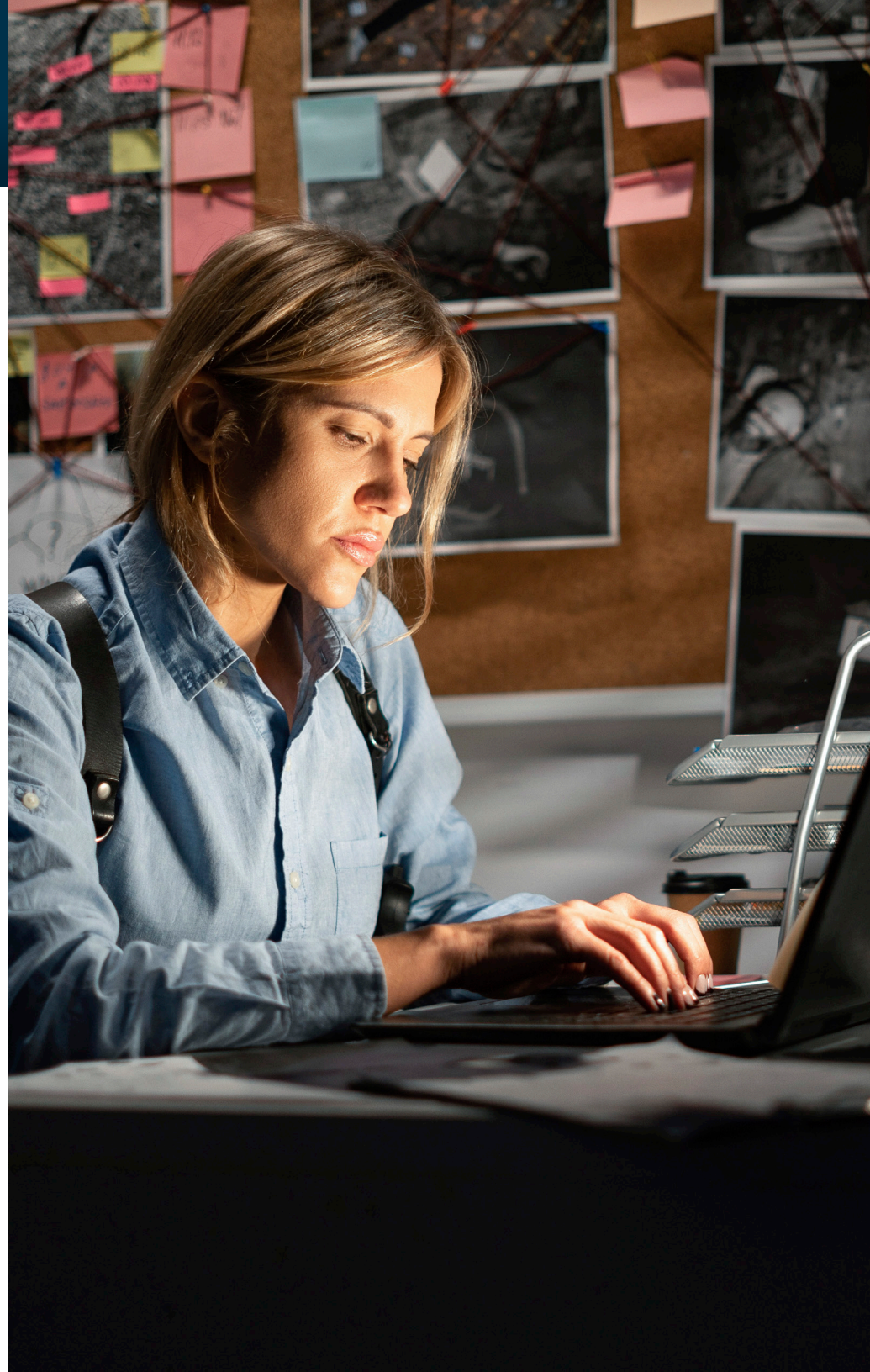
The company's software helps detectives and patrol officers comb through months of archived bulletins and make critical connections between seemingly unrelated facts. The platform also simplifies the process of communicating facts and collaborating to close cases. The software can attach a chatroom to a BOLO (be on the lookout) bulletin, for instance, so multiple officers can compare notes and move cases to resolution.

"We have robust search technology," Conroy says. For example, AI algorithms can use geographic information system (GIS) data to connect a suspect's clothing to a time and location. The algorithms also identify links between clues in multiple bulletins. Humans in the loop observe these clues to ensure they're authentic and free of bias.

"This empowers the police officer to supercharge their investigation," Conroy says.



MULTITUDE
INSIGHTS





R3 Score Technologies

Helping people after incarceration ends

WEB: r3score.com

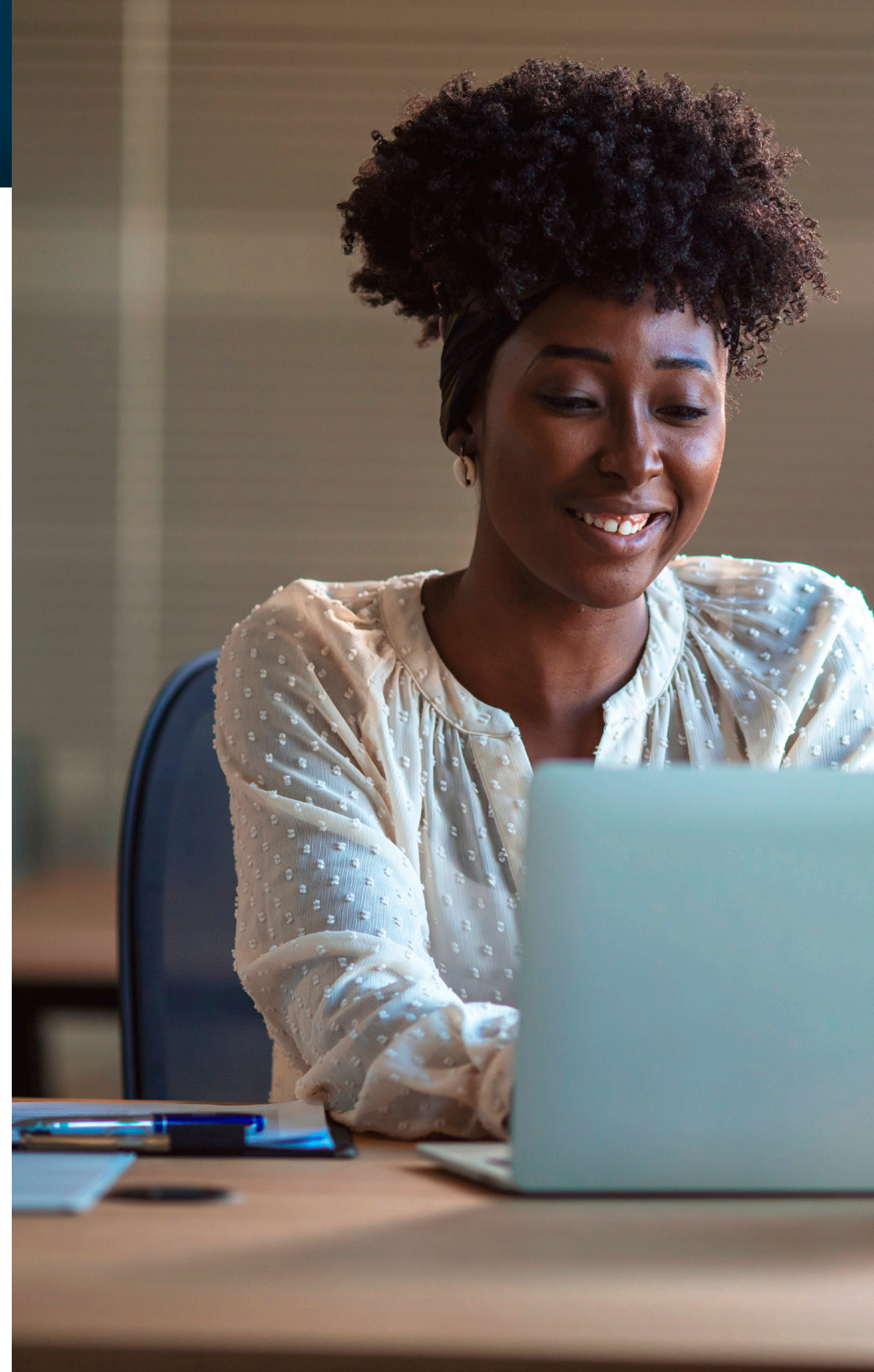
HQ: Baltimore, Maryland

People need jobs after prison sentences and jail terms. Employers can't afford to rule out job candidates who made mistakes years ago. R3 Score Technologies provides software, data, and reporting to bring employers and candidates together.

"One in three working adults have arrest or conviction records," says Laurin Leonard, R3 Score Technologies CEO and president. "A social problem has created a business constraint." Leonard, who co-founded the company with her mother, Teresa Hodge, says businesses need a way to assess the risks of hiring somebody with a criminal record.

R3 Score Technologies collects numerous data points on a former inmate's history to establish a track record. It also interviews recently released people as a second layer of risk assessment. This two-part test produces the R3 Score, which gives potential employers a more complete picture of the person they hope to hire.

The scoring pays off. "We've found that for folks who are able to get employed, they actually are retained," Leonard says.





School Guardian

Safe tracking for students, parents

WEB: www.schoolguardian.app

HQ: São Paulo, Brazil

School Guardian designed a smartphone app to ease the minds of parents unnerved by school violence.

"I've been a dad for almost 30 years now, and I don't want my kids, or anyone's kids, to be at this kind of risk," says Leo Gmeiner, the startup's co-founder and chief business officer. Expanding beyond its roots in São Paulo, Brazil's largest city, School Guardian combines a smartphone app with a subscription service that lets parents choose from a suite of modules for functions like school bus tracking, facial recognition, and QR codes for student ID badges.

While safety is the app's prime objective, it also helps educators and parents avoid traffic jams before and after school. Parents can tap the mobile app when they leave to pick up their children. The app tracks parents' progress and tells the student or a teacher when the parent arrives.

"We're helping the schools to be more efficient, to use technology to enhance their operations," Gmeiner says.





Wi-Fiber

Expanding wireless and cloud connectivity

WEB: wi-fiber.us

HQ: Bethesda, Maryland

Wi-Fiber's edge-computing package spins up AWS cloud services wherever a community might need them to support first responders. The company procures components, assembles hardware, and designs the digital infrastructure that pulls everything together. "We make these devices in house, and they're capable of doing astonishing things," says Adair Grover, Wi-Fiber founder and CEO.

Options include delivering high-bandwidth private networks to police, fire, and rescue teams. Clients can also implement gunshot detection, license-plate recognition, and real-time video analytics. More than 500 solutions are possible thanks to the company's partnerships with the AWS Marketplace and T-Mobile's 5G wireless network.

It all comes via a subscription service that relies on a software-defined network of radios, routers, and switches. "We deliver citywide 26 square miles of coverage," Grover says.

The service is geared toward smaller cities of up to 250,000 that may lack the connected infrastructure of larger urban areas. "We're focused on unserved and underserved communities — folks that don't have fiber at every intersection," Grover says. Las Vegas, Nevada, and Canton, Ohio, are among the cities that use the service.





ZeroEyes

Detecting active shooters

WEB: zeroeyes.com

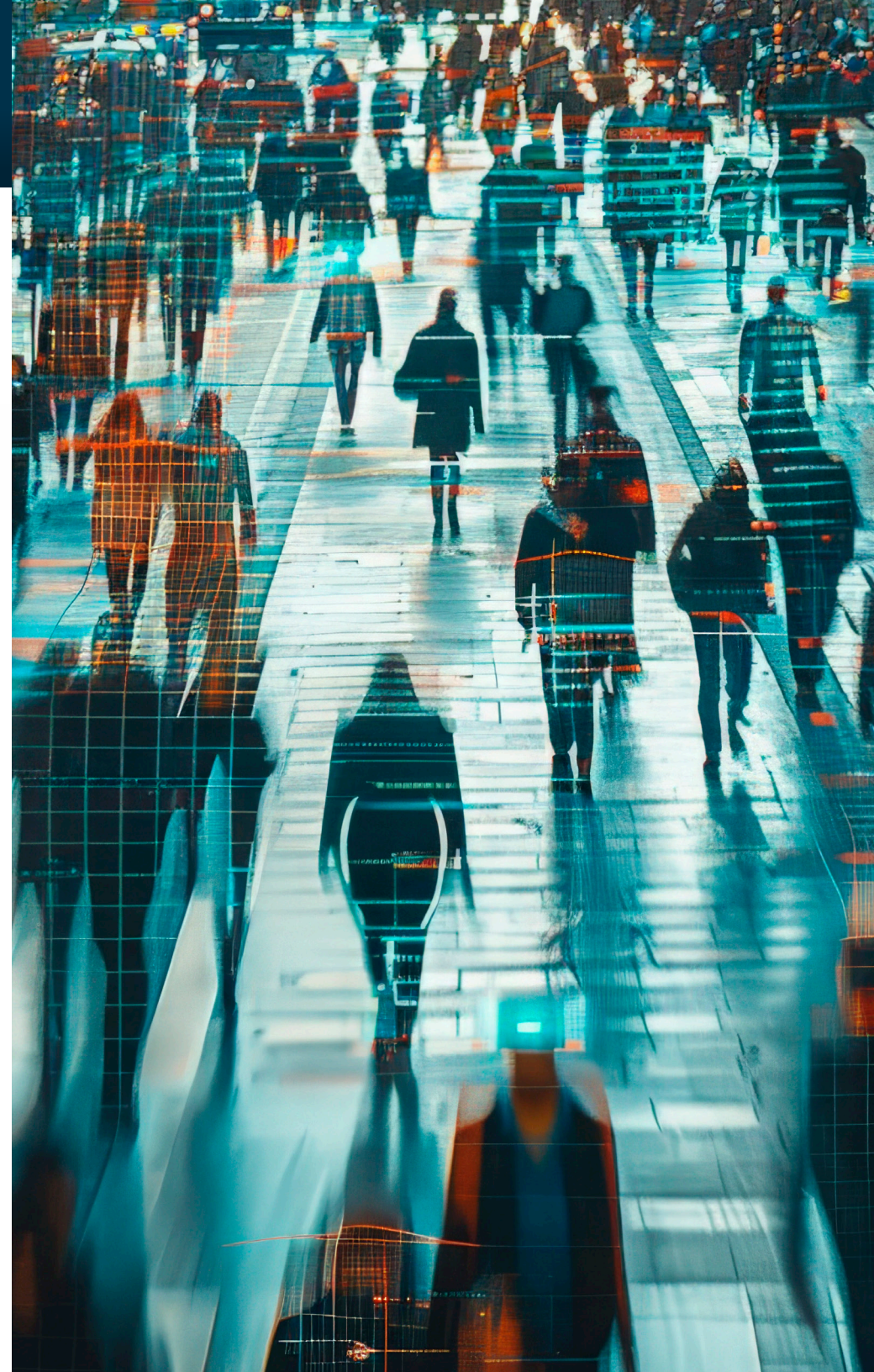
HQ: Conshohocken, Pennsylvania

Video surveillance has a significant flaw. “No one’s watching the cameras,” says Adam Horn, vice president of government solutions with ZeroEyes. His company uses cloud-based software to sound the alarm before active shooters start firing — something networked cameras alone can’t do.

ZeroEyes uses image-recognition AI to scan for guns in still images pulled from video feeds. When the software flags a firearm in an image, it alerts a human crew. Within five to seven seconds, they can contact the ZeroEyes client and tell them when and where the gun was seen, Horn says.

ZeroEyes’ market includes schools, stadiums, shopping malls, and other places that draw large crowds. It’s a monthly subscription service that requires no hardware purchases.

“In most cases, the shooter’s going to prep somewhere in a parking lot, in a stairway,” Horn says. ZeroEyes can catch these preparations and give authorities a chance to prevent a tragedy.





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