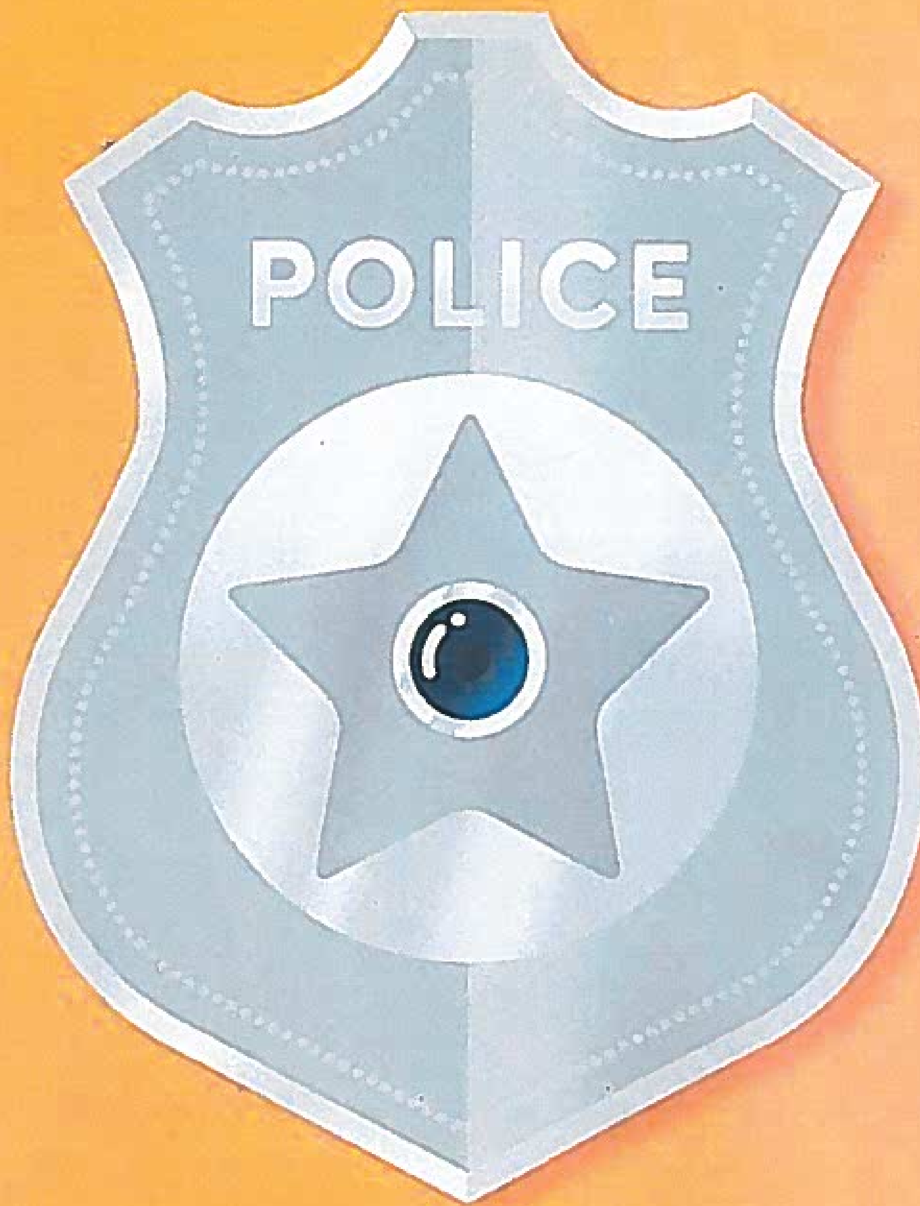

THE BIG BUSINESS OF BODY CAMS

Efforts to bring more transparency to law enforcement have unleashed a new, high-stakes market for police technology.

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On a gray afternoon in February, 18-year-old Curtis Deal was shot to death by a Baltimore detective. Police said Deal had darted away and, after a foot chase, turned and raised a handgun toward the undercover officer, who responded with a volley of gunfire. Two months later, on a Saturday night in the Dallas suburb of Balch Springs, an officer shot and killed 15-year-old Jordan Edwards, a passenger in a car that the officer said was backing toward him aggressively.

Normally, official accounts of police fatally shooting black teenagers rest largely on the words of the officers involved, a fraught proposition when public trust of law enforcement is lower than it's been in decades. But because these two officers were wearing body cameras—and both had remembered to activate them—they weren't the only witnesses.

In the case of Deal, the body-cam video backed up the officer's account. But with Edwards, the recording revealed something different: The car carrying him was driving away when the policeman opened fire. The officer was charged with murder.

These vital records of violent encounters have become more and more common as police departments from Baltimore to Balch Springs strap on body cameras, part of an effort to bring new transparency to their interactions with the public. Urged on by citizen activists eager for accountability—and supported by initial funding from the Obama administration—this

ROBOCOPS

Beyond Axon, myriad companies are changing the way police do business. Here's a look.

RECORDS MANAGEMENT With investors like Jeff Bezos, Ashton Kutcher, and former CIA director David Petraeus, **Mark43**'s cloud-based software aims to update and consolidate aging records and dispatch systems. Seattle-based **Socrata** allows governments to run raw data through machine-learning programs that spit out easy-to-understand visualizations, maps, and graphs on everything from crime to transportation.

CAMERAS **Motorola Solutions**, which has been making police walkie-talkies and radios for decades, is now investing in body cams (with built-in radios). **Safariland**, a police-equipment supplier, acquired camera-maker Vievu in 2015, and recently launched its own AI-enhanced video platform. Dozens of startups—including **Utility**, **Digital Ally**, and **Wolfcom**—have also released their own devices and software.

INTELLIGENCE Companies **PredPol** and **Hunchlab** design algorithms to find trends in police data, which can be used both for predictive policing and to spot officers who use excessive force. Startups like **Babel Street**, **Dataminr**, and **Geofeedia** build social media monitoring software that helps police scan accounts for keywords during a major event or around a specific location.

COMMUNICATIONS **RapidSOS** is building a database that can help send location data from our smartphones to 911 dispatchers, who often have difficulty pinpointing callers. The Shotspotter system, from **SST**, uses sensors around a city to triangulate the sound of gunfire in real time and alert police when and where shots are fired.

CLOUD STORAGE Police departments typically house their digital evidence on piles of hard drives and CD-ROMs, but a torrent of body-camera video—as much as 15 gigabytes per officer per day—has pushed them to cloud providers, including **Microsoft Azure** and **Amazon Web Services**. Both companies offer subscription based storage that meets federal standards for legal evidence, along with AI-based tools for tagging objects and recognizing faces in videos.

embrace of video represents one of the fastest technological upgrades in policing history. According to the Department of Homeland Security, 95% of the country's police departments are planning to implement body cameras; 20% already have.

That's catalyzed a gold rush, with startups, legacy equipment suppliers, and tech companies including Microsoft and Amazon all jostling for share of a market that some estimate could be worth more than a billion dollars by 2020 (see sidebar). And no company is in a better position than Axon, which makes the cameras worn in Baltimore and most of the country's largest cities—and, until recently, was known as Taser.

Though the two-decade-old firm still produces almost all of the world's police stun guns, its name change, announced in April, signals an ambition to dominate police video as well. In 2016, the company pulled in $268 million in revenue; its camera services were the fastest-growing segment, leaping 85% to hit $65 million in sales, thanks to new contracts with agencies such as the Los Angeles Police Department, which has purchased more than 7,000 devices. "We don't see any reason why you should send a police officer on the street with a gun and no body camera," says CEO Rick Smith, who engineered the name change for the company he founded. And as this new arm of his business grows, so does its impact on the future of policing.

Taser was an early mover into body cameras. It launched its first device and its Evidence.com video-storage platform back in 2009. But it took a national crisis for the products to gain traction: a series of high-profile deaths—many of them unarmed black men—at the hands of police in 2014. In response, the Justice Department seeded $41 million in grants to go to body cameras, and police departments began gearing up.

Today, Axon sells cameras to more than half of the country's 69 major law-enforcement agencies, along with cloud storage and tools to analyze and share videos. The business of cameras is bigger than it appears: The hardware is a gateway to even more lucrative subscriptions. Axon's newest camera costs $399; a subscription for Evidence.com's software and storage can run as much as $79 per officer per month.

Axon's pitch is aggressive, and rivals have accused the company of anti-competitive tactics, including cultivating financial ties with police officials and coaching departments on how to use no-bid contracts. Last fall, both New York and Phoenix had multimillion-dollar camera deals in the works with Vievu, a company founded by a former Taser executive. Axon responded by accusing Vievu of peddling faulty devices—and offered free cameras to both cities. The products were declined, but after a new police chief in Phoenix reopened bidding for its contract, Vievu sued Axon for interference.

Smith, battle-hardened from fending off decades' worth of wrongful-death lawsuits over his company's weapons, barely flinched. He countersued, and then took his camera-giveaway scheme national, offering a yearlong trial to every officer in the country—a bold move aimed at drawing more police into Axon's ecosystem.

The company's association with Taser stun guns hasn't exactly

> **Axon CEO Rick Smith has been careful to avoid positioning his cameras as vehicles for calling out—or cashing in on—police brutality.**

endeared it to the public. It's a different story with law enforcement. "Police, frankly, love the company," says Hadi Partovi, a Silicon Valley investor and cofounder of Code.org who sits on Axon's board. Smith has been careful to avoid positioning his cameras as vehicles for calling out—or cashing in on—police brutality. Instead, he cites studies like one from 2016 conducted by researchers at Cambridge University that links body-cam usage to a 93% reduction in complaints against officers. Outcomes like this, Smith argues, can save departments millions of dollars in legal fees and lost officer hours each year.

Capturing and managing mountains of video, however, does get expensive—a realization that has led some agencies to pause their body-camera programs. (A department with 200 cameras could spend as much as $15,000 a month on storage and analysis.) Smith says Axon's software can change those financials, and he's embedding it with algorithms that will eventually automate the laborious process of watching, tagging, transcribing, and redacting videos. Earlier this year, he bought an AI startup to help bolster this vision, and touts possible future crime-fighting tools like "predictive policing" and real-time face recognition. (Other camera companies, including Vievu, are also embracing AI.) A 2014 report from the Justice Department expressed concern over such technology, but Smith sees it as inevitable. If a camera were able to identify a "known cop killer," he says, "we can't expect an officer to not get that alert."

So far, discussions of how body cameras should be deployed—including what kind of encounters officers should record and how they analyze the video afterward—have taken place largely out of the public eye. Axon, too, is happy to leave these questions to its partner police departments, a fact that civil-rights advocates find troubling. "These are companies whose business is something that's very connected to the public interest," says Barry Friedman, founding director of the Policing Project at NYU School of Law. "But they have a conception of public safety that's been developed [by working with and in] law enforcement." If cameras are being acquired on behalf of, and eventually paid for by, citizens, shouldn't they have more input in the technology's development and deployment?

One of the biggest unresolved questions is when police should share videos with the public. In Baltimore, where trust of cops is brittle, police uploaded video of Curtis Deal's shooting to their YouTube channel within 48 hours, easing tensions in the city. But many controversial recordings—like the one that captured the shooting of Jordan Edwards in Texas—are kept private, frustrating citizen activists.

Seattle—home to both Axon and Vievu—and its police union are still wrestling with these issues ahead of a long-awaited rollout of Axon cameras. Kathleen O'Toole, the city's reform-focused police chief, says cameras will give the public a valuable perspective on police work. But she insists that body cams shouldn't eclipse broader investments in better training and community outreach. "We have to be realistic," she says. "Body cameras are not going to be a panacea." ●