

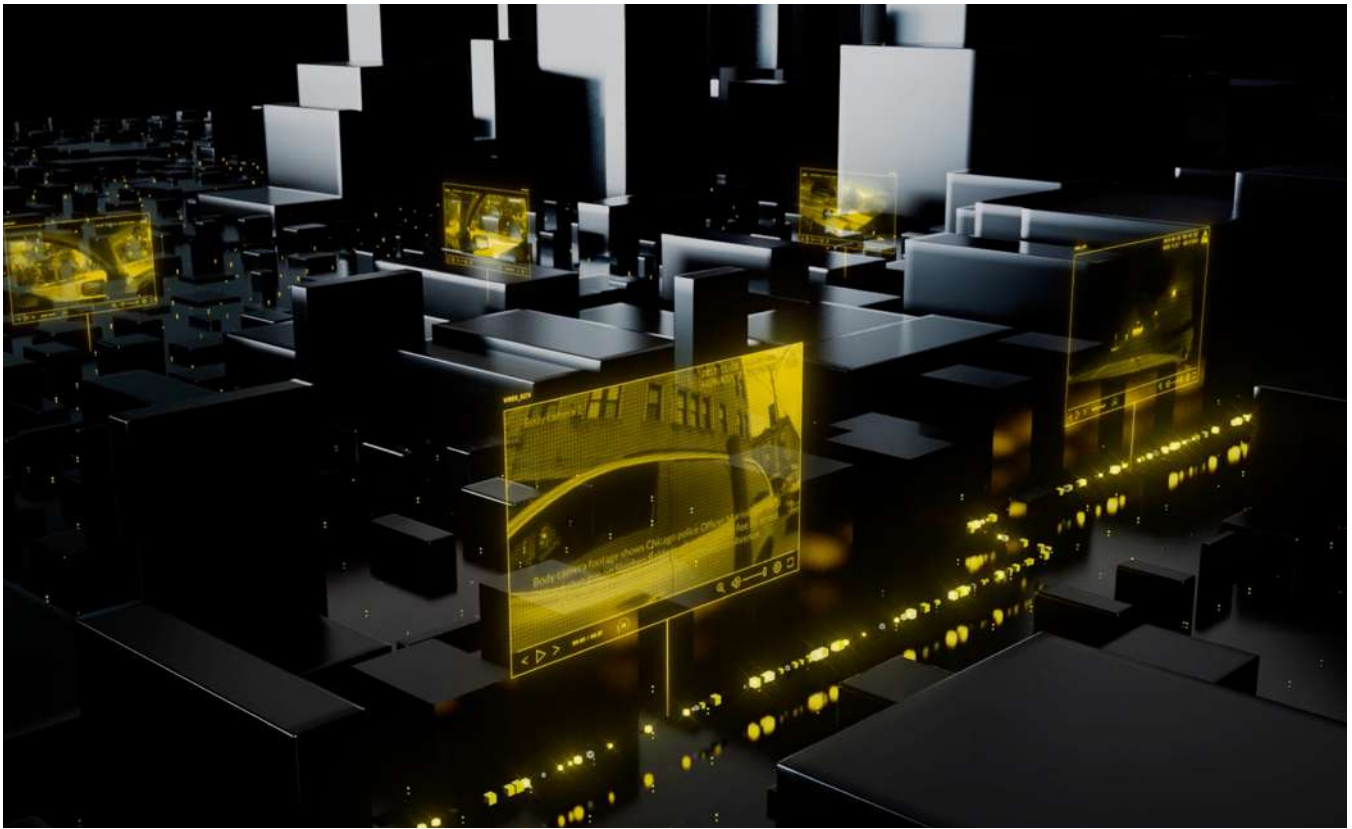
A 3D rendered cityscape in shades of gray, viewed from an elevated perspective. Several yellow circular markers with black upward-pointing triangles are connected to the city by thin yellow vertical lines, representing data points or specific locations. The background is a light gray gradient.

MODERNIZING REAL-TIME CRIME CENTERS IN LAW ENFORCEMENT

Contents

3	Introduction
4	Today’s Law Enforcement Landscape
5	The Core Benefits of Modern Technology in RTCCs
	Enhancing Crime Prevention
	Resource Optimization
	Effective Use of Technology
	Community Safety
8	Building a Robust RTCC
	Implementation
	Staffing
	Standard Operating Procedures
	Collaboration
	Continuous Evaluation and Adaptation
12	Conclusion
13	About Axon





Introduction

As law enforcement technology continues to evolve, the integration of this technology into agency and officer workflows is critical. Real-Time Crime Centers (RTCCs) provide agencies with a common operating picture and improve real-time situational awareness.

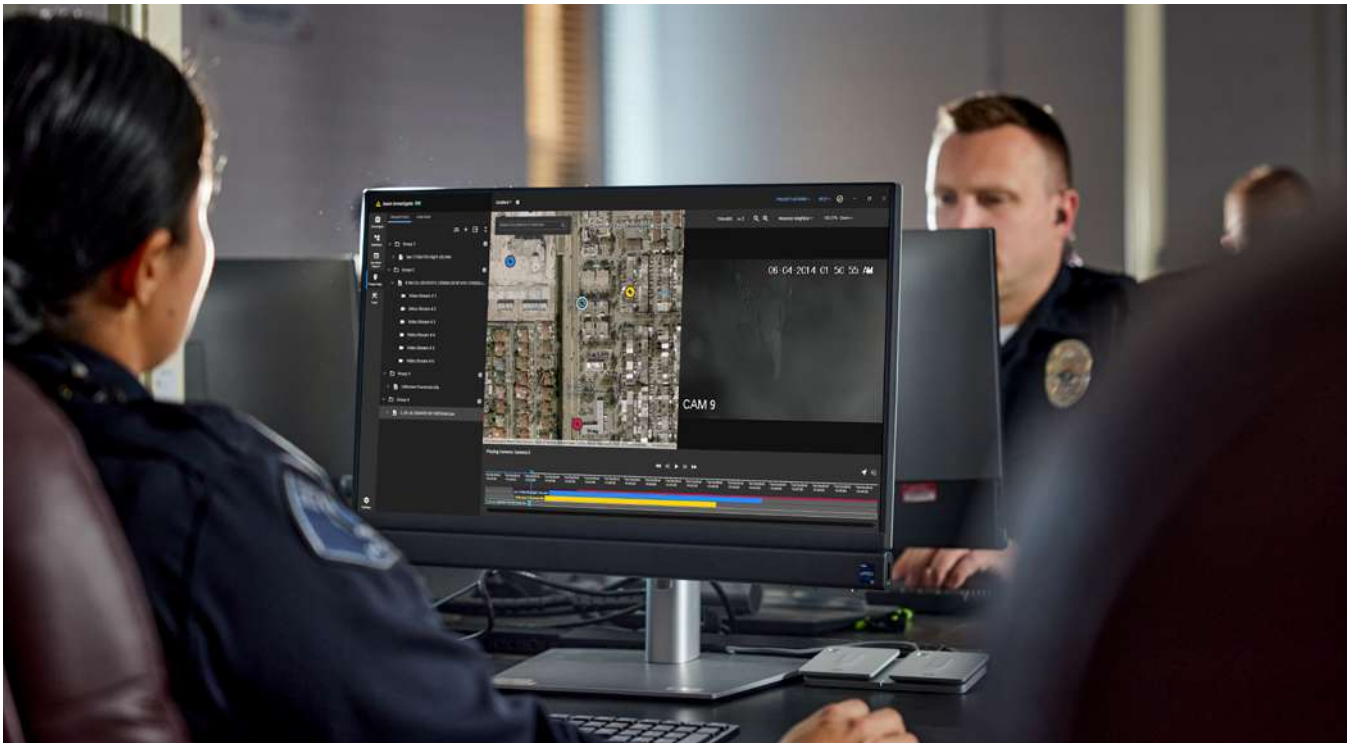
RTCCs are facilities within existing law enforcement agencies where feeds from video cameras and other data sources are analyzed in real-time to provide officers with actionable insights to help prevent or respond to crime in the field.

A typical RTCC receives data from various public and private sources, including security cameras, gunshot detection sensors, Automated License Plate Reader (ALPR) technology, drones, body-worn cameras (BWCs) and more. RTCC staff then analyze this data in real-time as calls for service unfold.

As of December 2023, there were 142 RTCCs in cities across the United States. While the exact setup of each RTCC varies by agency, most are staffed by officers or crime analysts and use police radios or computer-aided dispatch (CAD) programs to communicate directly with officers in the field.

This ebook explains the current state of technology in policing and the benefits of a modernized RTCC in harnessing the true potential of this technology. This ebook contains tips for setting up an RTCC in an agency of any size, and explores best practices for managing an RTCC and its associated technologies.





Today's Law Enforcement Landscape

Currently, there are several challenges facing law enforcement agencies across the United States. This first is high crime rates. Although crime rates (particularly violent crime rates) declined year-over-year in 2023, they remain elevated compared to pre-2020 levels.

A secondary, and equally pressing, challenge facing today's agencies is recruitment and retention. Currently, U.S. law enforcement agencies are seeing abnormally high officer attrition rates. In late 2022, a survey of over 700 law enforcement officers found that 51% of officers claimed recruitment and retention is the number one challenge facing law enforcement today. In fact, according to a 2022 study by the Police Executive Research Forum (PERF), officer resignations were 50% higher in 2022 than in 2019. Consequently, many agencies are operating with reduced staff.

The good news is that the last few years have also seen a marked rise in the technology available to law enforcement agencies. These solutions allow agencies to do more with less personnel. Stationary video cameras allow police to patrol more areas for longer periods of time, while drone as first responder (DFR) programs facilitate faster responses to incidents, and ALPR technology allows officers to quickly track suspect movements.

But how can agencies integrate all of this technology in order to best protect their communities and their officers? That's where RTCCs come in. RTCCs are quickly proving to be an indispensable tool in the fight against modern crime.



The Core Benefits of Modern Technology in RTCCs

The first RTCC was launched by the New York Police Department in 2005 as part of the US's response to the 9/11 terror attacks. Since that time, the concept of RTCCs has continuously evolved. Whereas the first RTCC's required significant technology and space investments, today's RTCCs can be launched in a small room or pushed remotely to officers through mobile data terminals (MDTs) and cellphone apps using existing law enforcement technology. This evolution means that RTCCs are more attainable for departments of all sizes and budgets.

Modern RTCCs improve police response times and empower responding officers with additional intelligence en route to calls, greatly enhancing situational awareness on-scene.

Additionally, data from RTCCs can be easily compiled and stored into an agency's DEMS – streamlining investigations, facilitating accountability, and preparing agencies for future incident management training purposes.

ENHANCING CRIME PREVENTION

The advantages of the RTCC compound exponentially when augmented with predictive policing. Agencies can use historical crime data and observations from the RTCC to decide when and where to deploy resources. Major events or large gatherings can be monitored by officers who, when coordinating with the RTCC, have enhanced situational awareness. And by analyzing historical crime data, agencies can better predict when and where crime will occur.

Predictive policing can take two forms:

Place-based: Utilizing historical crime data, police identify places and times where crime has occurred in the past in order to predict where crimes will occur in the future.

Person-based: Using criminal records and other data, police identify individuals who may be likely to commit crimes (or become victims of one) in the future.

The Los Angeles Police Department LAPD was one of the first major agencies to utilize predictive policing, starting in 2008. With support from The Bureau of Justice Assistance (BJA) within the Office of Justice Programs at the US Department of Justice, the LAPD has implemented a number of predictive policing programs, including [PredPol](#), which is aimed at identifying “hot spots” where property crimes are more likely to occur.

Predictive policing allows departments to deploy resources to where they are most likely to have an impact. Paired with the observational power of an RTCC, this allows police forces to effectively police larger areas.





RESOURCE OPTIMIZATION

The ability to inform and impact the allocation of resources makes the RTCC a force multiplier for law enforcement agencies. Departments with limited resources are able to deploy them where they will have the greatest benefit to the community. Particularly in high-crime areas, this ability to be predictive rather than responsive can lead to a reduction in crime through a deterrent effect and allow for more rapid responses to crimes when they do occur.

The RTCC also allows for the automation of routine tasks, like searching vehicle databases. Using ALPR technology, staff in the RTCC can automatically receive notifications when a subject vehicle is detected. The technology in the RTCC can then automatically pull up information about the vehicle owner's criminal history and registration data, giving officers critical information much faster than would typically be possible.

The RTCC can also serve as a means to track the lifespan of equipment for maintenance purposes. Using GPS data, a patrol car's mileage can be tracked automatically by the RTCC, giving the department greater visibility into how often they must perform preventative maintenance.



EFFECTIVE USE OF TECHNOLOGY

Ultimately, the RTCC presents an evolution in the use of law enforcement technology by integrating disparate features into one central location. RTCCs can further refine this impact by leveraging “single pane of glass” technologies. Single pane of glass (SPG) refers to a software solution that integrates disparate elements onto one screen. This reduces the amount of time officers must spend switching between different software screens and apps and increases the efficiency of their operations.

SPG also helps to eliminate the possibility that a crucial piece of information will be missed or overlooked because it was not on-screen during a critical moment. With SPG, all of the information available to RTCC staff members is available in one place.

A [2019 study](#) conducted by the RAND Corporation on the use of RTCCs (called Strategic Decision Support Centers or SDSCs) by the Chicago Police Department (CPD) recommended that CPD integrate “all sensor and crime forecasting data into the main public safety mapping display in SDSC rooms. These data include shot detection, crime hot spot forecasting, license plate reader detections, and relevant dispatch information. Otherwise, key information can be overlooked because it requires going into separate systems.”

BJA agrees, [citing the solution](#) employed by the Charlotte-Mecklenburg Police Department (CMPD) in the city of Charlotte, North Carolina. CMPD leverages single pane of glass technology to overlay “the majority” of RTCC resources onto one interface.

The BJA writes :

“Prior to this software integration, personnel had to log on to multiple websites/interfaces to access necessary information and then toggle between the various applications while conducting searches or accessing hundreds of cameras. This constant transition through varied programs and platforms caused delays in real-time response and also required a large number of active computer screens to function simultaneously.”



COMMUNITY SAFETY

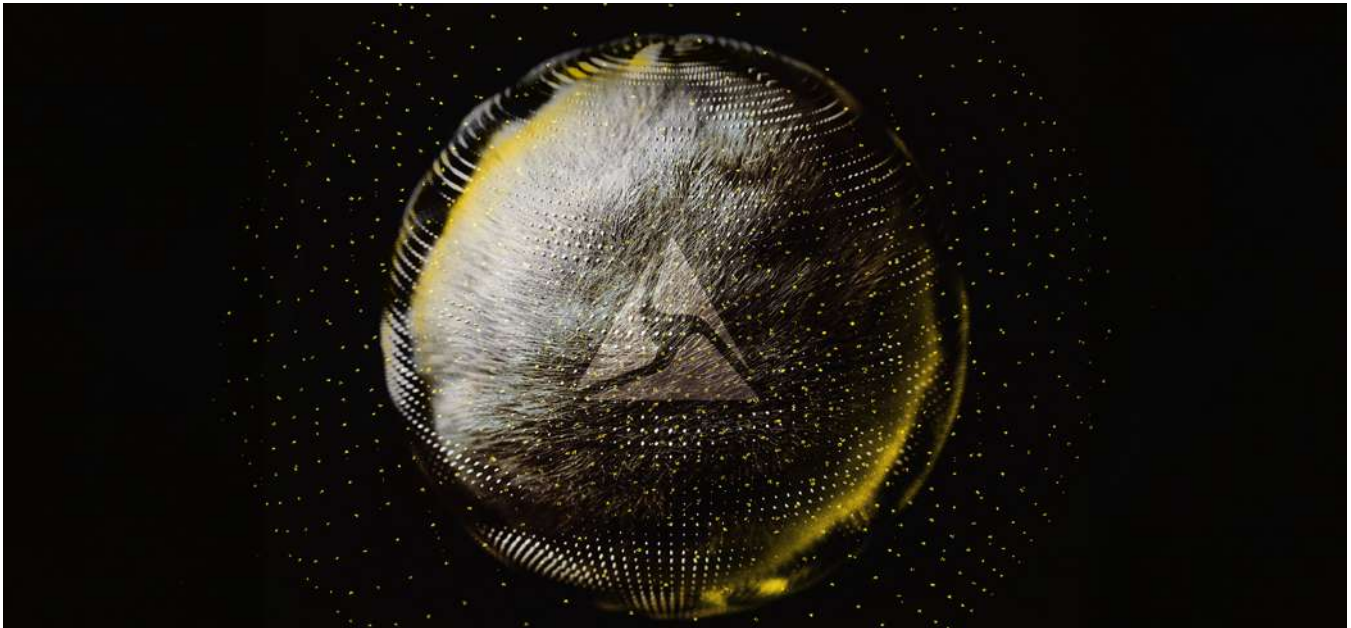
Ultimately, the RTCC enhances community and officer safety. By providing officers with enhanced data on service calls and allowing for faster apprehension of suspects, the RTCC has a significant potential to reduce overall crime.

A secondary benefit of gathering all of an agency’s technological resources into one place is the ability to provide greater transparency into police operations. According to the BJA: “In an era of law enforcement transparency, sharing real-time crime response successes may help to ease community tensions, establish or enhance organizational legitimacy and trust, and help the community realize that its law enforcement agency is ‘on top of the crime problem.’”



This sharing of resources and methodologies can also provide opportunities for citizen-driven technology initiatives such as doorbell cameras and other private security sensors to augment RTCC data. In many cities across the US, police departments have entered into partnerships with private security companies to grant law enforcement access to their video data, and community members can enable their cameras for use by law enforcement, providing even greater coverage.

Trust between community members and their respective agencies is fortified by modern RTCCs' ability to allow "permissions based sharing." In other words, owners of private feeds can determine which feeds and when feeds are accessible by RTCC staff. This compounded with audit logs foster collaboration between agencies and the community as opposed to exacerbating "big brother" anxieties.



Building a Robust RTCC

Advances in technology available to law enforcement have made it possible to construct an RTCC in an agency of almost any size and resource level. What once required a considerable investment in space and technology can now be achieved with minimal investment in a small room. For example, the SDSCs deployed in Chicago occupy space in relatively small conference rooms with a staff of three and minimal technical equipment. Regardless of the technological resources available to an agency, how do these tools work in concert with one another?

Modern RTCCs improve police response times and empower responding officers with additional intelligence en route to calls, greatly enhancing situational awareness on-scene.

Additionally, data from RTCCs can be easily compiled and stored into an agency's DEMS—streamlining investigations, facilitating accountability, and preparing agencies for future incident management training purposes.



IMPLEMENTATION

Establishing an RTCC starts with technology an agency will almost certainly already have adopted, like radios. One of the many benefits of a modern RTCC is that it not only constitutes a vehicle for agencies to unify their pre-existing infrastructure, it allows agencies to embrace a future-proof model. This is achieved by adopting technology-agnostic solutions and open APIs, which is now easier than ever. First, let's start with some basic RTCC components.

A basic RTCC can be established with just the three following technologies:

Communication: The absolute most basic need is for a way to communicate back and forth with officers in the field. This can be accomplished through existing radio and CAD technologies.

Computers and database access: After that comes the computers and video screens the RTCC staff will use to analyze and gather information, combined with the records management software (RMS) the agency uses to organize and store digital records and access to available police databases.

Video cameras: Finally, access to stationary video cameras provides the "eyes" of a basic RTCC, allowing it to observe events when officers are not present and gather information to share during emergent events.

For agencies with a greater need or more resources, additional technologies may be layered in:

- BWCs
- Database access
- ALPRs
- Drones
- Gunshot sensors
- Analytics software
- Social media monitoring
- Public or private CCTV

SPG is integrated with incoming video feeds and other technologies and will display information overlaid onto a map based on the agency's CAD, displaying the location of alerts, patrol units and more.

Care should be taken to ensure proper network security is in place when integrating multiple technologies, particularly when accessing external video feeds and other resources. Logins should be carefully controlled, and robust network firewalls should be installed.

The final consideration when organizing a RTCC is scalability. An RTCC may be constructed with a phased approach, starting small with the fundamentals and then expanding as resources allow.

An agency need not acquire all available technologies at the outset, and, in fact, there may be good reasons not to. Modern RTCCs with an open-ecosystem model are the best fit for agencies needing to pivot or expand their operations down the road. Until that time, as an agency stands up a RTCC and begins the process of developing best practices, it is important to take inventory of current resources.

Starting small and then expanding allows RTCC staff to get their feet under them, achieve small victories and is useless when conducting a gap analysis to determine how to grow the RTCC in the future.



STAFFING

While the staffing of an RTCC will depend on an agency's resources and needs, there are some best practices to consider. The [BJA recommends](#) a staff of 12 for a 24/7 RTCC. This allows for continuous monitoring of video feeds and the availability of analysts and communications officers across all shifts.

Agencies may not require the services of an RTCC for 24 hours a day, and may find it more suitable to assign staff to the RTCC in part-time shifts or detach staff from other departments to manage the RTCC when required. Needs will vary based on the crime rate and specific mission of each RTCC.

BJA warns that there will be "significant downtime" at most RTCCs and suggests cross-training RTCC officers in other aspects of agency operations. If an agency has a crime analysis unit, those analysts might be trained to staff the RTCC on demand. A department may also employ officers on desk duty or other non-assigned staff.

Possible staffing models for the RTCC include:

**Crime analysts
(sworn officers or civilians)**

Current or former officers

A mix of the above

Contractors

However the RTCC is staffed, the BJA recommends proactively establishing the unit's methodology and reporting to ensure that nothing gets forgotten. The nature of work in an RTCC is fast-paced, making it difficult to keep track of successes and document contributions to operations in the field. Having processes clearly established allows commanders to effectively track the impact and contributions of the RTCC for internal reporting and performance evaluation as well as communication with outside entities.

Agencies must also take care to clearly establish what information will be gathered and how that information will be communicated to responding officers. Many agencies limit communications with officers in the field to only sworn officers to ensure that information communicated is a) pertinent to the situation and b) communicated in a way that will not be disruptive. Civilian RTCC staff may not have the background or training to make these distinctions.



STANDARD OPERATING PROCEDURES

Creating a standard operating procedures document should be a priority when standing up an RTCC. This will help clarify roles and responsibilities and establish priorities and methodologies from the outset.

The BJA recommends an SOP that will, at minimum:

1. Establish the primary purpose and authority of the RTCC.
2. Clarify the RTCC chain of command (including differentiating it from the crime analysis division/unit, functions of crime analysts and the crime analysis chain of command, if applicable) and communicate the roles and expectations of the RTCC and its employees.
3. Clarify operational procedures, including active crime scene response protocols.
4. Identify all technology used by RTCC operators.
5. Clarify follow-up and proactive investigative roles for RTCC operators.
6. Establish procedures for documenting operator workload.
7. Clarify procedures for electronic and video evidence storage, retrieval and retention for agencies with advanced systems such as video cameras or license plate readers (LPR).

Identity protection and privacy policies should be established proactively, such as a policy for how long license plate data is stored before deletion.

COLLABORATION AND MUTUAL AID

An additional benefit of the RTCC is that it facilitates effective collaboration with external agencies. Information gathered and analyzed by the RTCC can be shared with other jurisdictions in real-time as a scene unfolds. This improves efficiency and effectiveness in scenarios where a response must cross jurisdictional lines or a suspect has traveled from one jurisdiction to another.

The RTCC can also serve as an effective command center for multi-jurisdictional exercises or during coordinated responses to large-scale incidents. The analytical capabilities of the RTCC are especially useful when monitoring major events, such as sporting events or parades. The RTCC can be used to monitor activity and coordinate with on-scene patrol forces. Historically, event monitoring entailed maintaining a physical space at an event and having a representative from each responding agency present. With modern, cloud-based RTCCs, these resources are no longer required to facilitate mutual aid. Agencies can seamlessly share data from their respective crime centers and communicate effectively.

CONTINUOUS EVALUATION AND ADAPTATION

Building an RTCC can (and should) be a work in progress. From additional technologies to revisions of policy, agencies should view the work of establishing an RTCC as open-ended.

As technology continues to evolve, agencies should perform regular technology audits to ensure the RTCC's technology is meeting the agency's needs.



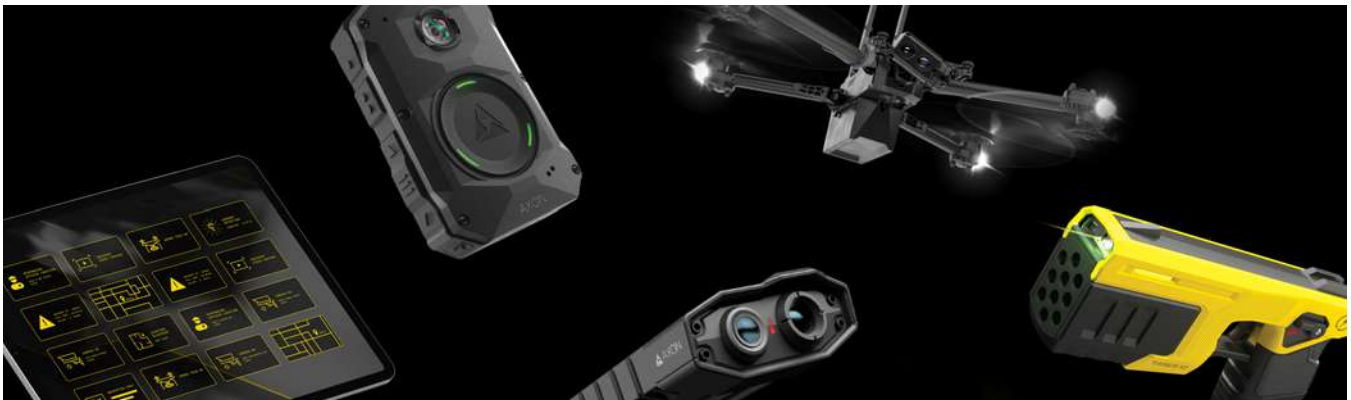
Conclusion

The RTCC gives modern-day law enforcement agencies critical insights and capabilities to prevent crime and ensure community and officer safety. By gathering all of an agency's technological assets in one place, the RTCC helps predict, analyze and respond to crime more efficiently and successfully.

There are numerous moving parts when it comes to building a Real-Time Crime Center. But that does not mean that bringing an RTCC to your agency has to be a daunting task. Starting an RTCC is more about an approach or a philosophy than needing a particular physical space or number of resources. At the heart of the approach should be an open ecosystem model in which agencies can pull from their existing resources to enhance capabilities and improve outcomes.

Ready to build an RTCC at your agency? [Axon can help.](#)

The Axon Ecosystem leverages Fusus by Axon to bring together a wide variety of data from Axon body-worn cameras, CCTV cameras, Fleet 3 cameras, Axon Air and more into a single pane of glass. Reach out to Axon today to learn more about building an RTCC and about how the Axon Ecosystem can help your agency protect more lives in more places.



About Axon

Axon is the technology leader in global public safety. Our Moonshot goal in the US is to cut gun-related deaths between police and the public in half by 2033. Axon is building the public safety operating system of the future by integrating a suite of hardware devices and cloud software solutions that lead modern policing, defense and security. Axon's suite includes TASER energy weapons, body-worn cameras, in-car cameras, cloud-hosted digital evidence management solutions, productivity software and real-time operations capabilities. Axon's growing global customer base includes first responders across international, federal, state and local law enforcement, fire, corrections and emergency medical services, as well as the justice sector, commercial enterprises and consumers.

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