Protecting Citizens with Drones

The use of drones, or unmanned aerial vehicles (UAV), as an application inside the Internet of Things (IoT) has the potential to provide many benefits for numerous scenarios within government, public safety, search and rescue, and emergency services. When operated in a secured enterprise communication and collaboration environment, these geographically agnostic communication endpoints add capabilities for interaction and allow a more scalable, distributed, dynamic team engagement. Drones enable first responders to quickly observe and assess emergency situations from a safe distance, limit the number of lives put at risk, and deliver a faster and more informed response when every minute counts.

How Many Public Safety Agencies Use Drones?

A Sample List of U.S. Federal Agencies Currently Using Drones

Public Safety Agencies by Jurisdiction

Public Safety Agency by Mission

How Do Agencies Use Drones?

Disaster Response
Crime Scene Analysis
Traffic Accident Reconstruction
Tactical SWAT Operations
Search and Rescue Missions
Explosives and Hazardous Materials Observation
Infrastructure Inspection
Agricultural Maintenance
Lifesaving
Multi-agency Response
Patrol Borders
Video Surveillance
Support Earth Science Missions
Detect Water Contamination
3D Mapping and Imaging
Monitor Wildlife
Law Enforcement
Incident Response
Crowd Monitoring
Fugitive Apprehension
Geological Surveys
Monitor Wildfires
Scientific Research
Fire Safety

How Do You Make Drones a Collaborative Team Member?

Avaya allows you to create innovative drone services or enhance existing drone management solutions, leveraging the open interfaces and APIs of Avaya Aura™, Avaya Breeze™, and Avaya Equinox Conference™ for real-time collaboration and advanced team engagement.

Delivering Real-time Video Feeds

Equipped with sophisticated optical and thermal cameras, drones serve as video endpoints delivering real-time video feeds to boost situational awareness. However, there are limitations:

• drone video feeds typically end at the remote control of the video and flight operator located at the incident scene.
• delays in time and delivery hamper collaboration if the video needs to be received and viewed in remote locations.
• there is a lack of immediate interaction between team members and drone operators.

How Do Drones Provide Real-time Communication?

Delivering Real-time Video Feeds

Supporting Interaction

Inside a conferencing and collaboration environment, drones can:

• deliver a video feed to a video conference for onsite drone operating staff and remote participants.
• support bi-directional communication with voice and video.
• connect to a 4G/5G mobile network and deploy communication software created specifically for the drone.
• leverage the manufacturer’s onboard or payload API’s to create new communication scenarios.

Flying Autonomously

To support autonomous flight during an end-to-end emergency response process, a drone must first connect to a 4G/5G mobile network to provide:

• geolocation of an emergency call.
• determination of target destination and waypoints for the drone’s mission.
• continuous monitoring and guidance by a centralized drone control center.
• delivery of real-time situational context.

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